

DONNA S. CONN and GREG CONN,
her husband,

V.

Defendant.

OPINION

On September 6, 2002, at approximately 3:35 p.m., the vehicle Donna was driving was struck by an automobile driven by Dr. Mary Ann Ziegler (“Dr. Ziegler”). The collision was severe. Donna had just left work and approached the intersection of State Route 119 and McClure Road in Upper Tyrone Township, Fayette County, Pennsylvania. State Route 119 is a

four lane highway; McClure Road has two lanes. They intersect perpendicularly and the intersection is controlled by a traffic light. Donna was traveling East on McClure Road and had stopped at the intersection. She proceeded into the intersection when the traffic signal turned green, giving her the right of way. Dr. Ziegler was traveling south on State Route 119. She was traveling in the center lane and failed to stop for the red traffic signal. The front of Dr. Ziegler's automobile struck the driver's side door of Donna's vehicle. The impact pushed the Conn vehicle approximately 90 feet from the point of impact, driving it across the center lane, the berm of the road and into the median. A six inch by three foot gouge, most likely caused by a tire rim, was left in the roadway. The driver's side was pushed in over 31 inches toward the center of the vehicle. See Plaintiffs' Exhibit No.s 4U & 4A-T. Three other motorists witnessed the accident. Each gave a statement indicating Dr. Ziegler was in a red car in the left lane; she ran the red light and hit the white car driven by Donna as it was proceeding into the intersection after the traffic signal turned green. Donna was transported from the scene by STAT medivac. Dr. Ziegler was transported by ambulance to Frick Hospital.¹ See generally Video-taped Deposition of Pennsylvania State Police Trooper Christopher Ray Rosano; see also stipulation of counsel in transcript of non-jury trial proceeding on July 14, 2006 (Doc. No. 57), at 75-77.

Donna was admitted to Presbyterian University Hospital, UPMC Healthcare System, in Pittsburgh as a level one trauma patient status post blunt multi-system trauma. University of Pittsburgh Electronic Medical Records (Plaintiffs' Exhibit No. 5), Transfer Summary of September 27, 2002. She had lost consciousness at the scene but had a Glasgow Coma score of 15, which signified she had normal findings with regard to eye opening, motor skills, verbal responses and other relevant and neurological interaction. Video-taped Deposition of John B.

¹Dr. Ziegler was acting within the scope of her employment on September 6, 2001, when the accident occurred. See Order of September 28, 2006, granting defendant Maryann Ziegler's motion to substitute party pursuant to 28 U.S.C. §2679(d) (3) (Doc. No. 22) and accompanying opinion (Doc. No. 21).

Moossy, M.D., at 16-17.²

Donna was in severe respiratory distress and discomfort and complaining of back pain upon admission. University of Pittsburgh Electronic Medical Records - Attending Physician Addendum of September 6, 2002. She was assessed as critically ill and admitted. Id. She was immediately intubated due to her respiratory status. Multiple CT scans were performed and she subsequently underwent an exploratory laparotomy and a splenectomy, which revealed a left hemidiaphragm rupture. Transfer Summary of September 27, 2002. The testing also revealed multiple fractures of the pelvic bone, a scapula fracture, multiple rib fractures, and a cerebral contusion in the right frontal lobe region. Video-taped Testimony of Dr. Moossy at 9; University of Pittsburgh Electronic Medical Records - generally. The left rib fractures extended from the first through the tenth ribs. The cerebral contusion measured approximately one centimeter. The following day the CT Scan of the brain revealed sheer injury involving the right frontal lobe and splenium of the corpus callosum. University of Pittsburgh Electronic Medical Records - September 7, 2002, MRI of the Brain by Dr. Townsend. Testing on September 8, 2002, further revealed bilateral pleural effusions with bibasilar atelectasis, a small left pneumothorax, and multiple left-sided pelvic fractures with adjacent hematomas. University of Pittsburgh Electronic Medical Records - September 8, 2002, CT Scan of the Abdomen and Pelvis by Dr. Townsend. After three days plaintiff was discharged from intensive care because she seemed to be doing reasonably well. Video-taped Testimony of Dr. Moossy at 10.

On the night after her discharge from the ICU, Donna had a decline in her neurologic status and she could not be aroused to be examined. Id. at 18. At that point she had lapsed into a coma and was returned to the ICU with a Glasgow Coma Scale of “3T” (the T referring to intubation or tracheotomy). Id. at 18. An emergency CT Scan revealed infarcts in the occipital lobes and swelling of the brain. Id. at 18. An initial CT Scan of the head uncovered an

²The Glasgow Coma Scale is a scale ranging from 3 to 15 that was devised by a pair of neurosurgeons in Glasgow, Scotland, to provide serial assessments of patients with head injuries. The scale provides an international standard for evaluation of head injury patients that is used to clinically assess the severity of a head injury at any given moment in time. Id.

infarction of the left occipital, temporal and posterior parietal region. University of Pittsburgh Electronic Medical Records - CT Scan of September 10, 2002, by Dr. Townsend. Immediately thereafter plaintiff was returned to the ICU, re-intubated and an external ventricular drain was placed into her brain in order to monitor pressure and drain excess spinal fluid. Video-tape Testimony of Dr. Moosey at 11. An incision was made in the scalp, a hole was drilled in the skull and the lining of the brain was punctured in order to place a rigidly held plastic tube providing access to the ventricular cavities. Id. at 12. The plastic tube was then attached to an external tube system that monitored pressure and permitted drainage. Id.; See also University of Pittsburgh Electronic Medical Records - Transfer Summary of September 27, 2002, at Addendum (“she was taken for an emergent CT Scan of the head which showed evidence of left parietoccipital CVA as well as evidence of a right temporal contusion with some swelling in the region of the mid-brain. She was transferred emergently to the neuro trauma ICU, and was seen by Neurosurgery by consultation. They placed an extra ventricular drain, or EVD, for monitoring and control of her intracranial pressure.”).

Radiological testing on September 11, 2002, uncovered a new infarction in the right occipital lobe and an evolving infarction of the left occipital lobe. University of Pittsburgh Electronic Medical Records - September 11, 2002, CT Scan by Dr. Townsend. The right frontal hemorrhage remained unchanged. Id. The infarction in the left occipital lobe was “evolving with persistent mass effect on the left lateral ventricle.” Id. Testing on September 12, 2002, confirmed diffuse swelling in both occipital areas producing mass effect on the brain stem. University of Pittsburgh Electronic Medical Records - September 12, 2002, MRI by Dr. Townsend. Dr. Townsend’s impression was bilateral occipital strokes in a PCA distribution, left greater than right with gyriform enhancement, and compression noted on the brain stem. Id. Testing on September 15, 2002, produced no substantial change in the bilateral posterior infarctions. University of Pittsburgh Electronic Medical Records - CT Scan of September 15, 2002, by Dr. Townsend.

By September 14, 2002, Donna Conn also was experiencing an elevated white blood cell count and fever. A CT Scan of the chest, abdomen and pelvis suggested bilateral pan-lobar

pulmonary consolidation suggestive of widespread pneumonia, bibasilar atelectasis and a small persistent left pneumothorax. University of Pittsburgh Electronic Medical Records - CT Scan of September 14, 2002, by Dr. Townsend. A CT Scan of the pelvis reflected a left superior and inferior pubic rami, left longitudinal sacral, and left anterior column acetabular fractures and the presence of a small extraperitoneal hematoma. Id.

Radiological testing conducted on September 17, 2002, produced the first hint of improvement in Donna's brain trauma. A CT Scan revealed no evidence of hydrocephalus and an interval decrease in cerebral edema. There was also less compression of the basal cisterns. In addition, the frontal hematoma appeared to be resolving. University of Pittsburgh Electronic Medical Records - CT Scan of September 17, 2002. There was calcification within the right inferior cerebellar lobe and evolution of the infarcts with occipital lobe and right brachium pontis. No new lesions were identified. Id. The right sided shunt tube was removed on September 17, 2002.

Radiological testing on September 25, 2002, produced further evidence of improvement. There was considerable increase in the size of the occipital horn and atria of the left lateral ventricle as compared to the prior September 17, 2002, study. There was no new significant subarachnoid hemorrhage accumulation and it appeared that the infarct in the left occipital lobe was perhaps slightly less extensive. University of Pittsburgh Electronic Medical Records - CT Scan of September 25, 2002.

Donna was transferred to Health South Harmarville Rehabilitation Hospital ("Harmarville") on September 27, 2002. At that time her transfer diagnosis were:

1. Status post blunt multi-system trauma following motor vehicle accident at a high rate of speed.
2. Exploratory laparotomy status post repair of left hemidiaphragm rupture as well as splenectomy.
3. Pelvic fracture.
4. Left scapular fracture.
5. Bilateral pneumothoraces status post bilateral chest tube placement.

6. Status post postoperative cerebrovascular accident, with evidence of left parietal occipital infarct as well as right temporal contusion.
7. Cerebral edema status post placement of extraventricular drain.
8. Respiratory failure status post tracheotomy.
9. Status post percutaneous gastrostomy tube placement.
10. Hemophilus and serratia pneumonia.

University of Pittsburgh Electronic Medical Records - September 27, 2002, Transfer Summary.

It was noted that when it became evident that Donna was going to be placed on ventilatory support for a prolonged period of time, a percutaneous tracheotomy was performed on September 16, 2002, followed by the placement of a percutaneous gastrostomy tube on September 25, 2002. Id. at addendum. Her EVD was removed on September 19, 2002. Id.

A complete review of Donna's neurologic, respiratory, cardiovascular, GI, nutritional, GU, hematologic and prophylactic status indicated Donna had reached a point of stability permitting transfer to Harmarville. Id. Activity was limited to 60 degrees of flexion at the hips, with use of a abductor pillow for three months and to continue using a left upper extremity sling. She had a Foley catheter in place, a tracheotomy and a gastrostomy tube, all of which required ongoing nursing care. Id. Medications included 50 mcg of Fentanyl, IV, one hour p.r.n for pain; morphine sulphate 1 to 2 mg, IV, for one hour as needed for pain, Tylenol at 650 mg p.r. or per G-tube every four to six hours as needed; Mycostatin to the groin twice a day; Zosyn 4.5 grams, IV, every 8 hours, Reglan 10 mg, IV, ever 6 hours; Pepcid 20 mg, IV, b.i.d.; Aspirin 325 mg, p.o. q. day; Colace 100 mg p.o. b.i.d.; and Lovenox 30 mg subcu q. 12 hours. Follow up treatment was to include consultation with Dr. Marion of Neurosurgery and Dr. Gruen of Orthopedics at approximately two weeks. Id. at Addendum, p.3.

The same transfer diagnosis was incorporated into Donna's admission assessment at Harmarville. Medical Records from Harmarville (Plaintiffs' Exhibit No. 6) at 1-4. Examination revealed that she was "non verbal." Id. at 5. She had missing teeth in the front. Id. She had a very limited ability to respond to muscle testing commands. Id. at 6. She had a closed right eye that could only be opened manually and her right pupil was non-reactive and pinpoint. Id. at 5.

Her left eye opened to command. Id. at 6. Initial impressions included impaired cognitive defects, impaired gait and impaired functional ability. Id. at 6. Goals included improving her cognitive defects and functional ability to the best level possible. Id. at 6. Consultations for pain management, physical therapy, occupational therapy, nutrition, recreational therapy and neurobehavioral improvement were planned. Id. at 6-7. Case management consultation was scheduled to assist in discharge planning and educating and teaching family and support systems as needed. Id. at 7.

Donna was discharged from Harmarville on November 15, 2002. She was released with the following diagnoses:

DISCHARGE DIAGNOSES

1. Status post MVA on 9/6/02.
2. Traumatic brain injury.
3. Acute left parietal occipital infarction in the post-trauma period.
4. Diffuse axonal injury with a right temporal contusion related to the trauma.
5. Evidence of damage to the mid-brain.
6. Impaired cognition, blunt multi-system trauma.
7. Status post exploratory laparotomy.
8. Status post repair of left hemi-diaphragm rupture as well as splenectomy.
9. Pelvic fracture.
10. Left scapular fracture.
11. Bilateral pneumothoraces.
12. Status post bilateral chest tube placement with subsequent removal.
13. Cerebral edema.
14. Status post placement and removal of EVD.
15. Respiratory failure status post tracheotomy and subsequent removal.
16. Status post percutaneous gastroscopy tube placement with subsequent removal.
17. Hemophiles and serratia pneumonia - treated.
18. Neurogenic bladder.
19. Third cranial nerve palsy.
20. Anemia, improved.
21. Elevated liver function, improved.

Harmarville Rehabilitation Hospital Records (Plaintiffs' Exhibit No. 6) - Rehabilitation Discharge Summary. Improvement was noted from a neuropsychiatric standpoint. Donna's mood disorder had responded positively with the use of Paxil. Restlessness was improved with Inderal. Multiple cognitive functioning tests in the month of November indicated an improvement to a "moderate degree of cognitive impairment." Id. at 2. At that juncture Donna

“was able to complete simple math and word problems with assistance to reach problems with occasional errors secondary to reduced fund of knowledge and inattention to detail.” Id. An ophthalmologic assessment carried with it the diagnosis of a third nerve palsy incomplete with pupil involvement and bilateral superior quadrantsia secondary to her occipital lobe injury. Id. Her elevated liver function had been largely resolved. Id. She suffered and continued to suffer from incontinent of urine at bedtime. Id. She was permitted to continue engaging in weight bearing as tolerated. At that juncture she was able to walk independently on level surfaces, navigate stairs with the use of a railing and transfer independently. Id. at 3. She was not to be left alone in the house or permitted to drive. Id. She required the use of a “chin tuck” when eating. Medications included Ecotrin, Peri-Colace, Prevacid, Ditropan, Paxil and Inderal. Id. Follow-up service included a month of physical therapy at two or three sessions per week for balance, coordination and steps, outpatient therapy two to three times per week for a month for activities of daily living, safety, functional transfers, ambulation, cognition, perception and home management; speech therapy three times a week for four weeks for improved auditory comprehension, word retrieval, word comprehension, functional math skills, cognitive skills, functional writing skills and to promote verbal expression; and follow-up with her orthopaedic surgeon, Dr. Gruen and a neurosurgeon, Dr. Moosy. Id. at 3.

Dr. Gruen treated Donna for her pelvic and scapula fractures initially and through the extensive rehabilitation that followed.³ Dr. Gruen initially saw her on the day of the accident at UPMC. He was involved in the diagnosis and treatment of her complex fracture involving the

³Dr. Greun is a board certified orthopaedic surgeon specializing in trauma and fracture surgery. He is a full professor of orthopaedic surgery, having started in 1989 as a assistant professor and progressing to associate professor and ultimately a full professor at UPMC. His tenure with UPMC began in 1989 and he has practiced orthopaedic surgery and has been involved in the treatment of emergency room and trauma patients since that time. He has maintained an active practice, operating four days a week and seeing patients one day a week while also teaching medical students, residents and fellows about orthopaedic trauma surgery. He has a particular interest and specialty in pelvic fractures and has managed the care and treatment of approximately 1,500 patients with pelvic fractures. Video-taped Testimony of Dr. Gruen of July 7, 2008, at 6-7.

front and back portions of the pelvis, a left scapular fracture and approximately ten rib fractures. Id. at 8.⁴

Following her transfer to Harmarville, Donna was transported by ambulance on October 10, 2002, for follow-up with Dr. Gruen. Id. at 12. At that point she was able to follow commands and sit without pain. Id. Radiographic and clinical testing revealed good callus formation and as a consequence she was released to weight bearing activity as tolerated. Treatment Notes of Dr. Gruen (Plaintiffs' Exhibit No. 8) at October 10, 2002, p.2. He recommended weight bearing with a walker and noted she may need modalities of physical therapy and range of motion exercises. Id. Weight bearing activity was to be conducted under the supervision provided at Harmarville. Video-taped Testimony of Dr. Gruen at 12. At a follow-up consultation on November 7, 2002, Dr. Gruen noted plaintiff was doing relatively well and ambulating without pain. Id. at 13. At that point he explained that a high energy injury such as the one sustained by Donna also damages the skin, muscles and nerves around the pelvis. He counseled that while she was progressing and doing well, in the big picture she would experience limitations as to endurance, strength, walking and so forth as a result of the damage to the soft tissue envelope around the pelvis. Id. at 13; Treatment Notes of Dr. Gruen - November 7, 2002 at 2.⁵ By April 17, 2003, plaintiff had progressed to the point that she had symmetrical and pain

⁴A complex fracture of the pelvis is one that breaks the ring in two different locations, making it potentially unstable. Treatment generally proceeds along one of two distinct courses. If the pelvis bone has been displaced, then surgery is necessary to realign the bone before healing can begin. If the bone is reasonably aligned, then traditional treatment involves limiting weight bearing activities for at least ten to twelve weeks. Id. at 9, 23. The scapula bone is located in the back of the chest and is commonly referred to as the "wing bone" because it articulates with the shoulder. Id. at 8. Donna's scapula was broken on the left and she had sustained approximately ten rib fractures on that side. Id.

⁵The surfacing of such limitations is a frequent occurrence in pelvic fracture cases managed by Dr. Gruen. Video-taped Testimony of Dr. Gruen at 13. And given the high energy motor vehicle accident and injury, it was clear to him that such limitations would surface in the months and years to follow, notwithstanding what by all appearances was a good recovery. Id. at 14-15.

free motion of the lower extremity and was able to ambulate in Dr. Gruen's office without pain. Treatment Notes of Dr. Gruen - April 17, 2003, at 1.

On May 15, 2003, Donna reported experiencing significant lower back pain, which had been going on for 2 to 3 months. Treatment Notes of Dr. Gruen - May 15, 2003, at 1. The pain began insidiously and she had not requested any specific intervention or treatment for it. Id. Physical examination and testing indicated the pain was likely muscular and Dr. Gruen recommended physical therapy. That treatment was not available, however, due to the lack of insurance and consequently Dr. Gruen recommended exercise and stretch routines to be performed at home. Id. at 2.

Donna returned to Dr. Gruen on May 6, 2004, reporting that while she had been doing very well, she had been plagued with some left low back pain in the recent past and wanted to make sure she was doing okay. Treatment Notes of Dr. Gruen - May 6, 2004, at 1. The pain generally surfaced in the left SI joint area. Id. Dr. Gruen's examination indicated she had no neurological deficits, spinal canal complications, herniated disc or other similar conditions that might account for the pain. Video-taped Testimony of Dr. Gruen at 37-39. She did present with tight hamstrings, which is an objective criteria that commonly produces pain in the aftermath of a pelvic fracture resulting from a high energy injury. Id. at 16. Dr. Gruen provided her with a prescription pain reliever and anti-inflammatory and recommended physical therapy that emphasized hamstring and low back stretching along with aerobic training. Video-taped Testimony of Dr. Gruen at 40; Treatment Notes of Dr. Gruen - May 6, 2004, at 1. Dr. Gruen concluded that the muscular pain was related to the pelvic injury and was part and parcel of its long term effects. Video-taped Testimony of Dr. Gruen at 36, 39-40.

Donna appeared for follow-up and assessment with Dr. Gruen on September 13, 2007. She reported experiencing pain and limitations in walking distances more than 10 blocks, climbing stairs and standing more than two hours. Examination revealed an antalgic gait, which meant she had a painful gait and walked with a limp. Video-taped Testimony of Dr. Gruen at 17; Treatment Notes of Dr. Gruen - September 13, 2007. Dr. Gruen's clinical examination eliminated independent causes for her discomfort and limitations. Id. at 17. He determined "she

had clearly a disfunction of the muscles that surround and support the pelvis.” Id. at 18. And that her reported limitations were in fact real and legitimate. Id. at 19. From his perspective, Donna had reached “maximum medical improvement” and would continue to experience good days and bad days. He explained once again that she was at risk of chronic pain, stiffness, leg length discrepancy, continued imbalance and the need for operative intervention in the future if anything became displaced. Treatment Notes of Dr. Gruen - September 13, 2007, at 1.

Notwithstanding these risks and limitations, Dr. Gruen’s concluded Donna’s prognosis was good and that she may be able to perform some type of light duty or sedentary job in the future. Id. at 19. In other words, she would continue to be functional, but her functional abilities would be limited. Id. at 20. This was in part because she had demonstrated a fair level of tolerance for pain, did not require narcotics and was able to manage her episodic bouts of pain with Tylenol. Video-taped Testimony of Dr. Gruen at 20, 44-46. In short, Dr. Gruen perceived Donna’s reported limitations as entirely consistent with her pelvic fracture and she would continue to be functional and engage in the activities of daily living and child care on any given day; she also would experience pain and be unable to engage in physical activities on an extensive or frequent basis.⁶ Id. at 48.

Donna also had a number of follow-up consultations with Dr. Moosy after her rehabilitation at Harmarville. She was referred to Dr. Moosy by his colleague who had left the practice and referred his patients for follow-up care. Video-taped Testimony of Dr. Moosy at 31. Dr. Moosy first met with Donna in February of 2003, shortly after she had been at

⁶Dr. Gruen explained that his assessment was not influenced by Donna’s desire to document whether Dr. Gruen was of the medical opinion that her complaints and limitations were in fact real. Id. at 43-46. Given the nature of his practice, a great number of Dr. Gruen’s trauma patients are involved in litigation and as consequence he is required to do a lot of reviews. Id. at 44. Assessments made in such a context neither change the treatment he prescribes nor influences the information he includes in his treatment notes. Id. at 44. He expected Donna to have experienced such pain and limitations long before September of 2007 and was confident she had just been dealing with and living with them. Id. at 45. And while she would continue to experience significant limitations and days of dysfunction, he believed she would be able to manage her recurring pain with Tylenol or some other over-the-counter analgesic.

Harmarville and spent significant time in rehabilitation. By his assessment, she had made significant progress in the recent months. She appeared well dressed, well kept and had a relatively non-focal neurological examination. She did have some persistent left facial weakness. Dr. Moosy ordered additional CT scans, requested recent neuropsychological tests be forwarded from Harmarville and scheduled a follow-up consultation in 3 months. Id. at 22-23. The scans were performed and Donna returned as scheduled. Id. at 23.

The May 2003 scans revealed “an extensive stroke” on the left side of the brain, transgressing through the occipital lobe into the temporal lobe anteriorly on the left.⁷ Id. at 23. Dr. Moosy noted that given the severity of Donna’s injuries she had what he considered to be an excellent recovery, which he placed in context as follows:

For a patient - for people who do what I do and see patients, as sick as this young woman was, a patient that walks into the office, dresses themselves and is able to converse is an excellent outcome.

Id. at 25. In other words, many patients with the degree of injury suffered by Donna from the combination of her visceral and cranial injuries are debilitated to the point of requiring continuous care. Id. at 25-26. He explained to Donna and her family that typically a patient will achieve 90 percent of the recovery they are capable of in the first year. Thereafter, additional improvements may be acquired, but they are incrementally smaller and are gained incrementally slower. And after suffering such an injury the patient will never get back to 100 percent or return to a level that is substantially the same as he or she was prior to the injury. Id. at 26-27.

Donna returned to Dr. Moosy on September 10, 2003. Id. at 27. She still had neurological deficits as of that date, including a right exotropia. She was taking two medications for depression, medication to control bladder incontinence and aspirin. Id. at 27; Medical Records of Dr. Moosy (Plaintiffs’ Exhibit No. 9) - September 10, 2003, letter. She was

⁷The injured tissue appears as dark-shaded areas within the scan. The dark-shaded area actually reflects encephalomalacia, which is damaged tissue within the brain. Id. at 24-25. And while there can be some improvement in the area of encephalomalacia over time with the involvement of the nervous system and it’s plasticity, the areas of damage appearing six months after the initial injury reflect permanent damage and those segments of the brain within the dark areas will never recover. Id. at 25.

pleasant, laughed appropriately “at witticisms” and appeared to be doing quite well. Given the severity of her injury and the amount of brain damage, Dr. Moossy assessed her recovery as “excellent”. Video-taped Testimony of Dr. Moossy at 38.

During the September 10, 2003, consultation, Donna and her mother asked Dr. Moossy about her ability to resume driving and return to an independent life, which he understood to mean that she was still being supervised by her family. Id. at 27; Medical Records of Dr. Moossy - Letter of September 10, 2003. Dr. Moossy did not believe Donna would be capable of driving at that point in time. Id. at 36. He expected her to fail the test given the complex interpretive and interactive functions necessary for driving and the degree of recovery she had experienced. Id. at 35-36. In other words, while he was “pleased that she was conversant, interactive and able to fend for herself in the sense of being able to dress herself and so forth,” she was still living under the supervision of relatives, was not independent and was not functioning as a normal woman of 30 years of age. Id. at 37. Thus, the “excellent” recovery as of that date was compared to the average recovery for the kind and severity of injury and amount of resulting brain damage sustained. Id. at 38.

Donna also was evaluated and treated by Graham Gordon Ratcliff, D. Phil. (“Dr. Ratcliff”), a neuropsychologist, during the course of her out-patient rehabilitation at Harmarville.⁸

⁸Dr. Ratcliff obtained the equivalent of a doctoral degree in neuropsychology at the University of Oxford. Trial Testimony of Graham Gordon Ratcliff (Doc. No. 61) at 5. Neuropsychology is a discipline that focuses on how the brain works and how knowledge about that can be used to diagnosis and treat manifestations of brain dysfunction caused by injury. Id. at 10-11. In Britain, neuropsychology is considered to be an independent branch of science related to cognitive and experimental psychology. Id. at 9-10. In the United States, it is considered to be a sub-specialty of clinical psychology. Id. at 11. The European approach is more research oriented within the cognitive psychological tract. Id. at 11. Dr. Radcliff did a post-doctoral fellowship in Montreal, Canada, at an institution specializing in surgery for epilepsy. He was involved in studying the differences between injury to the left and right sides of the brain and the different functions affected thereby. Id. After serving as an assistant professor in Reading University in England, Dr. Ratcliff came to the University of Pittsburgh in 1981 as an assistant professor in psychiatry and neurology. Id. at 13. After conducting research and lecturing at Harmarville, Dr. Ratcliff began working part-time at Harmarville to help and advise

Dr. Ratcliff first examined her as an inpatient after staff within the neurobehavioral program began to notice that she had difficulty recognizing things. Id. at 30. He conducted three additional neuropsychological evaluations in 2003 and 2004 during the course of her outpatient rehabilitation. Id. At 31. There was no pending litigation during this time and on each occasion Dr. Ratcliff evaluated Donna pursuant to a referral by her treating physiatrist, Dr. Franz. Id. at 31.

Dr. Ratcliff conducted the first neuropsychological consultation in January of 2003. Id. at 32.⁹ As of the initial consultation Dr. Ratcliff had received the background information from

staff psychologists on the effects of brain injury. Id. at 15. He eventually became full-time at Harmarville. The position evolved into directing and conducting neuropsychology services, with some time being spent in pursuit and fulfillment of research grants in conjunction with the University of Pittsburgh. Id. at 15-19. He has been the principal investigator in a research grant looking at the effect of aging on memory and the changes that occur in conjunction therewith. He has also been the co-principal investigator on a grant looking at the long term effects of head injury. Id. at 19.

Over the past 15 years Dr. Ratcliff has devoted approximately half of his time spent at Harmarville in evaluating patients with some kind of brain injury. Approximately fifty percent of his patients have deficits caused by brain injury, with the remainder having dysfunction from other potential causes, such as stroke, multiple sclerosis, dementia, and so forth. Id. at 20-21. He spends additional time doing consults for staff attempting to assist inpatients at Harmarville. Id. at 21.

Harmarville set up a neurobehavioral unit in the mid 1980's in order to provide rehabilitation services to individuals with head injuries. Id. at 25. The goal of the unit was to help patients overcome the effects of cognitive defects. Dr. Ratcliff was involved in setting up the program and became its director. Id. at 25. The goal was to help people who have cognitive defects as a result of brain injury regain lost or impaired functions. Id. at 26. During Dr. Ratcliff's tenure at Harmarville the institution has expanded from a facility providing services to patients within the Western Pennsylvania region to a facility owned by Health South Corporation, a national chain that owns hospitals and outpatient facilities in every state. Id. at 28-29. Dr. Ratcliff has conducted thousands of neuropsychological tests over the course of his career. Id. at 29. By experience, he is an expert in neuropsychological testing, evaluation and treatment aimed at bringing about cognitive rehabilitation.

⁹In general, a neuropsychological consultation is based upon information obtained from three sources. First, a history is taken from the patient, available family members and any other collateral sources. Second, observation is made of the patient, with a focus on their behavioral presentation, how they act, what they look like, how they converse and so forth. The third source is obtained by conducting standardized neuropsychological tests that typically cover memory,

Donna's motor vehicle accident and resulting hospitalization, including information concerning the large infarct in the left parietal occipital area, the right temporal contusion and possible damage to the brain stem. Id. at 37. In addition, at the first outpatient consultation he obtained information from family members regarding her living arrangements, general educational background, recent work history and current medication regime. Id. at 37-39.

Initially, at the January, 2003, consultation Donna said she was pretty much back to her old self, which was significant in that she clearly was not and it signified that she lacked insight into her impairment. Id. at 40. She reported having some trouble with her vision and difficulty reading. Id. Her mother and husband confirmed her difficulty in recognizing things, such as being unable to recognize different kinds of food in a buffet line and coming up with the concept of the name of a Christmas gift. She was experiencing a lack of word recognition, having difficulty matching clothes and deciding between colors, was more passive as opposed to her prior "go-getter" personality. Id. at 41. Although pleasant and cooperative, Donna was passive during the consultation in that she sat there and did not volunteer much information. Her answers were very brief. Id. at 41-42. In addition, her right eye deviated outward and she would close one eye when attempting to do any visual task. Id. at 42. Her answers to questions were reasonably coherent and she did not present with any obvious language disfunction in conversation beyond providing brief and limited answers. Id. at 42-43. She appeared to be putting forth her best effort and did not engage in any behavior that suggested the test results should not be taken as a valid indication of her cognitive functioning. Id. at 43.

attention, aspect, perception, language, the ability to come up with words and similar basic functions involving the brain. Id. at 33. Other tests are designed to measure more difficult levels of human behavior, such as executive function, the ability to plan, the ability to organize, the ability to act appropriately in a social setting and so forth. Id. at 34. Taking a history assists in formulating the areas to be examined closely. The nature of the injury often suggests the kinds of abilities that will be affected. Id. at 35. For example, damage to the left side of the brain should affect language, where as damage to the right middle of the right side would not. Id. In addition, problems reported by the patient or family members often provide a clue as to the kinds of ability that should be examined. Id. at 35-36. Remaining flexible and exploring additional hypotheses that arise during the evaluative process also is important. Id. at 37.

Core neuropsychological testing conducted in January of 2003 included testing of memory, visual perception, object processing (the ability to identify an object or concept with the word), speed of processing (how quickly, simply things can be done), manual dexterity, attention, measures of reading ability and brief measures of being able to write statements or sentences. Abnormal results were produced in several areas. Id. at 45. “The most obvious thing was she had a complex disorder affecting her ability to tell you what things were.” Id.¹⁰

This disorder stemmed from several areas of dysfunction. First, Donna’s brain had difficulty putting lines and information from her visual perception together to make an object. Second, she had lost part of her fund of knowledge about the identification of things. Id. at 47-48. In addition, she had difficulty coming up with a name for items or concepts that she clearly knew or understood. Id. at 49. Moreover, she could not name colors and her reading was very slow and characterized by letter-by-letter reading. Id.; Neuropsychological Consult of January 20, 2003, at 2. Her ability to recognize words spelled out-loud was not significantly impaired. Id. at 49-50; Neuropsychological Consult of January 20, 2003 at 2.

Dr. Ratcliff recorded his impressions concerning this aspect of Donna’s dysfunction as follows:

These results suggest a disorder which does not fall neatly into any of the standard categories but has some characteristics of visual agnosia, some features typical of disconnection syndromes and some that are more typical of more specifically language-based disorders. The so-called “optic aphasia” probably captures the essence of the object processing problem most adequately. Testing using some materials from Psycholinguistic Assessment of Language Processing in Aphasia battery suggested the presence of both visually and semantically based

¹⁰Object recognition is tested through a series of presenting pictures of things, which proceeds from an array of objects that anyone would be expected to know, such as a flower or a tree, to quite difficult things that people might not know such as an artist’s pallet. Id. at 45. An average individual recognizes and can name around 55 out of the 60 objects comprising the test. Donna was able to name only 26, which reflected a severe impairment. Id. at 45; Neuropsychological Consultation of January 20, 2003, by Dr. Ratcliff (Plaintiffs’ Exhibit No. 12) at p. 2.

confusion in object recognition and, for practical purposes, I think that Ms. Conn would be best regarded as an individual who has moderate difficulty recognizing objects by sight, greater difficulty naming them and moderately impaired reading ability.

Neuropsychological Consult of January 20, 2003, at 2-3. In addition, he noted some memory impairment, although the test results were confounded by her difficulty in word-finding. Id. at 3. She had difficulty in recall after delay – her performance on a word list learning task was moderately to severely impaired and she was unable to recall any words after a brief distraction. Id. Testing reflecting her formal measures of verbal fluency suggested severe and mild-to-moderate impairment. Dr. Ratcliff concluded that in addition to some memory impairment Donna probably also had milder, more diffuse cognitive dysfunction. Id.

The information relayed by family members suggested her difficulty with object recognition was effecting her functioning in activities of daily living and it appeared that her reading disorder would render her non-functional in reading extended passages of text. In contrast, it was likely she could recognize or at least learn to recognize important survival words. Id. In light of these and as well as other areas of dysfunction, Dr. Ratcliff recommend further outpatient services aimed at helping Donna develop compensatory strategies, assisting her in developing an increased role in household chores within a structured environment and exploring her ability to learn and recognize important survival words quickly and efficiently. Id.; Trial Testimony of Dr. Ratcliff (Doc. No. 61) at 57-59. Dr. Ratcliff further explained that her dysfunction clearly would impact her ability to engage in the activities of daily living, such as being able to recognize different types of food, having difficulty coordinating the color of clothes, being forgetful to a degree that affected the ability to follow a known and routine schedule, and needing to be prodded to do things. Trial Testimony of Dr. Ratcliff (Doc. No. 61) at 59-60.¹¹

¹¹Dr. Ratcliff opined that Donna's object recognition and memory dysfunction were very consistent with the injury from infarcts in the posterior part of both hemispheres and the injury to the anterior part of the right hemisphere of the brain. Id. at 61. In addition, the lack of initiation, also known as agnosia, is particularly consistent with injury to the right frontal lobe. Id. at 60-63. He further explained that the deficits and areas of dysfunction were not directly related to a

Dr. Ratcliff performed a second neuropsychological consultation on September 15, 2003. Id. at 64. It essentially consisted of the same format and tests. Id. at 65. The examination revealed improvement in a number of Donna's functional abilities. Donna had been able to move back home with her husband and young son with additional family support. On some days she was able to be solely responsible for her son. She needed cuing reminders to complete household tasks, but once she was told to do a task she was able to complete it. She had insight into her impairment, expressing an understanding that she would not be able to return to work in her current condition and that she was not her former self. Her ability to recognize objects was improving and she no longer complained of recognition errors in the activities of day-to-day living, although she acknowledged that she still failed to recognize things occasionally. She was able to match clothes. She acknowledged that she was still occasionally forgetful and needed cuing to initiate tasks, but relayed that improvement had been gained in these areas, which her mother confirmed. Her major complaint was a higher vision problem. And her right eye continued to be abducted. Her reading was still quite slow and she had to sound out larger words. She occasionally had difficulty with her sense of direction. But overall, everything had improved. Trial Transcript of Dr. Ratcliff at 64-69; Neuropsychological Consultation of September 15, 2003 (Plaintiffs' Exhibit No. 12) at p.1-2.

The battery of tests likewise indicated that while she still had abnormal difficulty in the same areas, there had been improvement. Trial Testimony of Dr. Ratcliff at 69-70. Her ability to name objects on the Boston Naming Test had improved from 26 to 38 with a lessor degree of hesitation in her successful responses. Successful responses after phonemic cues were offered likewise improved, as did the quickness of her response to the cues. Her ability to read single words was significantly quicker and her difficulties primarily involved the presentation of longer and irregular words. Color naming remained hesitant but was improved. She no longer exhibited significant difficulties with object recognition and did not appear to be agnosic.

person's "IQ", nor would they be accounted for by the individual having a low IQ score. Id. at 63-64.

Memory testing performance had also improved, although it had remained impaired and was confounded by word-finding difficulty. She continued to perform poorly on word-list learning tasks, but her ability to remember word lists when tested in a recognition format was much better. Performance on measures of verbal fluency remained impaired and essentially unchanged. She had greater difficulty listing items in a given semantic category than in listing words in a given letter. Neuropsychological Consultation of September 15, 2003 (Plaintiff's Exhibit No. 12) at p. 2-3.

Dr. Ratcliff noted that although Donna remained severely impaired in confrontation naming and continued to have difficulty with color naming and reading, the improvements likely reflected the natural course of recovery from a mixed disorder of recognition, naming, and semantic knowledge, through "optic aphasia" to a more purely language-based disorder. Id. at 2. Her performance on word-list learning tasks and formal measures of verbal fluency likewise were consistent with a combination of mild residual memory impairment and a disruption of the semantic aspects of language. Id. at 3. He summarized the import of his consultation as follows:

In summary, Ms. Conn's object naming has improved since the previous evaluation, but remains quite severely impaired. She no longer exhibits overt difficulty with object recognition but does perform poorly on more complex cognitive tasks that involve the recognition and analysis of drawing of objects. Reading is faster but still at least mildly impaired. Memory test performance has improved but her recall of verbal information is still compromised by word retrieval and difficulty with access to semantic knowledge. She continues to close one eye during visual tasks, presumably to overcome the affects of her abducted right eye, but near visual acuity assessed by reading numbers is still approximately equivalent to 20/20 in corrected, binocular vision.

Neuropsychological Consultation of September 15, 2003, at p. 3. This reflected a significant improvement in Donna's functional abilities, but it was "only a small part of the way back to normal." Trial Testimony of Dr. Ratcliff at 71-72.

Dr. Franz referred Donna to Dr. Ratcliff for reassessment in April of 2004. Id. at 73. Further improvement was again noted on a number of levels. Donna reported taking on increased responsibility for the care of her son, although there typically was someone else around when she did so. She assisted her mother-in-law in looking after children on two days a week, looked after her own son on one day and traveled to her husband's business on one or two days.

Although she had difficulty in explaining spontaneously how she thought she had improved since the last consultation, upon questioning she reported that her reading, while still slow, had improved, she no longer outright failed to recognize objects but still had difficulty coming up with an appropriate name, and had been able to learn the names for certain things. She still needed task prompting, although she had gained further improvement. For example, she now needed fewer reminders and could initiate activities such as taking a shower without prompting. Donna's mother also reported that Donna was doing well with her increased responsibility in caring for her son. *Id.* at 75-79; Neuropsychological Consultation of April 30, 2004 (Plaintiffs' Exhibit No. 12) at p. 1. She still needed prompting with tasks, remained visibly abducted and was closing one eye when attempting to perform visual tasks. Trial Testimony of Dr. Ratcliff at 78-79; Neuropsychological Consultation of April 30, 2004, at p. 2. Testing likewise revealed modest improvement in most test scores, but the overall assessment remained similar. Trial Testimony of Dr. Ratcliff at 79; Neuropsychological Consultation of April 30, 2004, at p. 2. Her Boston Naming Test score had improved to 38-40, which reflected minimal improvement but also verified that Donna remained severely impaired. Qualitatively, it appeared that the deficit was limited to a word-finding difficulty as opposed to object recognition. Neuropsychological Consultation of April 30, 2004, at p. 2. Her word listing scores and recall of short passages also had improved. Neuropsychological Consultation of April 30, 2004, at p. 2. Her processing speed had improved by ten percent but remained mildly-to-moderately impaired in manual dexterity tasks as well as in processing involving a visual search. Her reading remained slow. Neuropsychological Consultation of April 30, 2004, at p.3. Dr. Ratcliff summarized his assessment as follows:

In summary, both Mrs. Conn's behavioral presentation and formal testing suggests some improvement since the previous evaluation. She still experiences quite significant cognitive impairment, predominantly affecting the processing of verbal material, including word-finding difficulty and difficulty retrieving information from memory. There are still very subtle signs of an additional difficulty with visual recognition, but one would probably not attribute much significance to these if one were not aware of her prior history of agnosic-like problems. Performance on visuomotor tasks is probably compromised by her visual deficits, although she seems to manage them quite well. Reading is slow, probably chiefly because of difficulty with the linguistic aspect of the task more than the visual element.

Id. And while the results of the consultation again reflected improvement over the previous evaluation, Donna “still had quite significant cognitive impairment predominantly affecting the processing of verbal material, [that is,] the ability to come up with words and the ability to retrieve information from her memory.” Trial Testimony of Dr. Ratcliff at 81. She also remained quite slow in processing tasks, although part of her deficiency could have been attributed to the visual component of her dysfunction. Id. at 81-82.

Dr. Ratcliff did a final neuropsychological evaluation of Donna on June 6, 2007, at plaintiff’s counsel’s request. He employed the same format and battery of testing, but a considerable amount of additional testing also was done. Trial Testimony of Dr. Ratcliff at 83. By that juncture her abducted eye had been corrected through treatment with an ophthalmologist, Dr. Charlie. Id. at 83. Donna reported she no longer had difficulty recognizing objects, but her reading was still slow, she had to sound out longer words and she still required some cuing from family members to get things done around the house. It was reported that she was still occasionally forgetful and at times oblivious to the fact that there was a need to do a particular chore or activity. These deficits were consistent with the behavioral observations of an individual who is not very spontaneous or proactive and consistent with the presence of a brain injury, particularly one involving the frontal lobes. Id. at 85-86.

The battery of neuropsychological tests produced results substantially similar to those obtained in April of 2004. Id. at 88-89. She again was able to name 40 of 60 items on the Boston Naming Test, but now she was just failing to come up with the names of things as opposed to being unable to recognize objects. Id. at 89. Advanced testing revealed subtle impairment in the recognition of objects but that deficit was no longer apparent on conventional testing. Id. She had moderate difficulty in accessing her fund of knowledge and difficulty with word list learning tasks, with slight improvement in the latter area. Id. at 89-91. Her delayed recall was improved. Id. at 91. She had significant difficulty copying a complicated geometric figure and did very poor in measurements of visuo-spatial ability. Id. at 91. This testing suggested she would have difficulty in areas involving the perception of spatial relationships, such as reading or activities that would involve diagrams like sewing, knitting or dressmaking. It

could also translate into difficulty with directions and finding your way around. Id. at 93.

When asked about IQ testing in further detail, Dr. Ratcliff explained that subparts of the standard adult IQ tests had been employed in all of the evaluations. The subparts are used to measure different aspects of mental ability in order to identify the brain functions that have been significantly impacted by an injury. Typically, focal brain injuries produce selective deficits. Thus, individuals often display deficit functioning in the part of the brain that has been damaged and not much impairment in other functions. Thus, the subtesting from IQ tests that is employed is designed to identify those areas of functioning that have been severely affected. In contrast, intelligence testing identifies an average measure that is comprised of many different aspects of mental ability and does not focus on particular brain functions that have been adversely affected. Id. at 93-98.¹² Dr. Ratcliff summarized the results of his evaluation as follows:

In summary, there has been no improvement in Ms. Conn's cognitive test performance since the last evaluation in 2004. She still exhibits impaired ability to retrieve verbal information from memory, most obviously on object naming and list-learning task. Object recognition has improved and may be adequate for most everyday purposes but impairments in visuo-spatial and perceptual ability are still apparent on specific testing. These are still likely to affect Ms. Conn's performance in visually demanding tasks or in a visually confusing environment. She was particularly warned to take care when driving at night in wet conditions when reflections can be confusing and she will have difficulty in more complex visuo-spatial tasks or those involving mechanical or constructional ability. It is not surprising that the higher-level deficits involving reading, visual spatial ability and perceptual organization have persisted even though her dysconjugate gaze has improved and visual acuity is normal as they are the results of damage to the visual processing areas of the brain, not to basic, sensory impairment. Her deficits are quite consistent with the bilateral brain damage, including a focal left parieto-occipital lesion, that was found after the motor vehicle accident of 2002.

Neuropsychological Evaluation of June 6, 2007 (Government's Exhibit No. F) at 3-4.

On January 25, 2008, Ravi Kant, M.D., conducted a psychiatric consultative examination of Donna at the request of plaintiff's counsel. Video-taped Trial Testimony of Dr. Ravi Kant at

¹²For example, overall IQ testing would not identify severe impairment in various functions of memory or the ability to recognize or name objects. You could have severe difficulty in either or both areas and it would not necessarily be reflected in the individual's overall IQ scores. Id. at 97-98.

8.¹³ As part of the examination Dr. Kant received and reviewed the types of records he customarily would review when treating a patient. Id. at 95. These included the neurosurgical records, the discharge and treatment summaries from UPMC, the discharge and treatment summaries from Harmarville, the traumatic surgeon's records, the CT Scans and the reports of the CT Scans. Id. at 95-97. Dr. Kant used the intake form he customarily uses in the initial evaluation of new patients and went over the form with Donna and Greg Conn. Id. at 62,64-66, 97-99. Through this process the Conns indicated Donna suffers from a little forgetfulness, lack of organization, confusion and a word recognition problem. Id. at 67-68, 98-99; see also Intake Questionnaire of January 24, 2008 (Government Exhibit V). Discussion with Greg Conn reflected his concern that Donna does not initiate tasks and activities, does not exhibit the same level of motivation that she use to have and has to be told and reminded about what to do and when to do it. Id. at 20, 80, 83-86.¹⁴

Dr. Kant also reviewed the physical injuries and traumatic brain injury in detail. Id. at 9-10. The CT Scan reflected a "large hematoma in the frontal lobe" and a very large area of stroke in the occipital lobes that extended into the parietal lobes. Id. at 10.¹⁵ The right frontal lobe

¹³Dr. Kant has been board certified in psychiatry since January of 1993. His practice is focused on treating patients who have suffered head injuries and various kinds of brain trauma, as well as some general and child psychiatry. Id. at 6. He has treated approximately one thousand patients with head injuries over the course of his career. Id.; see also Curriculum Vitae of Ravi Kant, M.D. (Plaintiffs' Exhibit No. 16a). The components of his examination included talking to Donna, taking a history from her and her husband, reviewing the medical records provided and conducting a neuropsychiatric mental status examination. Id. at 9. He authored an evaluation report on January 27, 2008. Id.; see also January 27, 2008, Report of Dr. Ravi Kant (Doc. No. 41-6).

¹⁴Dr. Kant explained that Donna's changes with regard to lack of initiation, motivation, forgetfulness, need for instructive cuing and oversight and so forth were well beyond the usual symptoms and inconveniences the average individual experiences. Id. at 85-86. He opined that without the significant support structure in place Donna would not keep up with the household chores and activities needed to care for three children and a husband. Id. at 85-86.

¹⁵The hematoma is a collection of blood that results from the ruptures of blood vessels where the blood has leaked out into the substance of the brain. Id.

hematoma was accompanied by some edema (swelling) around it. Id. at 12.¹⁶ In addition, there was abnormal pressure in the brain causing a midline shift wherein the left side ventricle was crossing over to the right side, meaning there was significant pressure on the left side and it was pushing the ventricle to the right to the point where it crossed the midline of the brain. Id. at 13-14. In turn, the right side of the ventricle was “squished some, thus reflecting the severity of the traumatic brain injury.” Id. at 14. CT Scans of the infarct in the occipital area revealed “a big infarct on the right side [and] a huge area of infarction and edema” on the left. Id. at 15.

Dr. Kant’s neuropsychiatric evaluation indicated Donna appeared to have mild psychomotor retardation, a flat affect, a lack of awareness as to her obvious deficits, and some difficulty in short term recall, which improved upon prompting. Id. at 18-19, 83.

Moreover, each of the areas of residual deficit are consistent with the functions in the areas of the brain wherein Donna suffered traumatic brain injury. Id. at 21-25. Specifically, the frontal lobes are the dominant areas controlling emotions and cognition; the occipital lobes are where visual functioning occurs; that is, they are the area where the optic nerve relays information which is merged into a visual image; and the parietal area performs non-linear non-mathematical functions such as visual spatial relationships, forms of language such as music and similar functions. Id. at 21-26.

Donna has had a very good recovery when compared to others who have sustained similar large strokes and a hematoma. Id. at 27, 74-75, 95. Indeed, it properly is categorized as “a remarkable recovery.” Id. at 74-75, 95. Nevertheless, her deficits such as lack of initiation, lack of motivation, lack of awareness of her deficits, and her need for persistent reminding and cuing concerning chores, tasks and planning are permanent. Id. at 26. Similarly, her mild psychomotor retardation and the inability to maintain stable emotions without the use of medications are

¹⁶The edema was a result of the injuries sustained in the car accident, but it can also cause injury in itself. Id. at 13. This is because the brain is confined within the skull and when there is an extra collection of water or other fluid that is trying to expand, there is no where for the fluid to go and the increased pressure can damage brain cells and cause or extend injury further, even to the point of death. Id.

permanent deficits and conditions which will not improve. Id.

In addition, Donna has a higher risk of future problems as a result of her brain injury, including the potential for hormonal problems, seizure disorders, hydrocephalus and premature dementia. Id. at 27-30. She may never suffer premature dementia, a seizure disorder or similar deteriorating conditions. Id. at 95. But her injury puts her at high risk for such conditions. Id. at 28 (“head injury in such a level of trauma itself can be a contributing factor to developing early dementia.”); 30 (“People with moderate to severe head injury are at higher risk of developing hydrocephalus.”); 31-32 (same). Similarly, the degree to which the residual cognitive and emotional deficits will impact her day-to-day functioning will depend upon the demands in her life and the degree to which she continues to enjoy strong and persistent family support and oversight. Id. at 74, 79, 83-84. Given the strong level of family support she has received, Donna should be able to continue providing a substantial level of care to her children, drive in the local area, complete tasks such as going to the grocery store and picking up laundry, and other forms of shopping and household chores. Id. at 84-88.

In conducting the neuropsychiatric evaluation, Dr. Kant presumed Donna was of average intelligence and a high school graduate who had received average grades. Id. at 54, 70. He did not request or review her school records or any psychological testing that was done prior to the accident. Id. at 53-54. And he assumed she did not have a pre-existing cognitive deficit. Id. This assumption was based in part on the belief that Dr. Ratcliff would have been able to make an assessment of Donna’s pre-accident level of functioning as part of the neuropsychological testing process. Id. at 54-55.¹⁷ And a post-evaluation review of Donna’s school records led Dr. Kant to conclude that although she had a number of average and below average grades during middle school and was characterized in the seventh grade as a “slow learner,” her full scale IQ testing of 92 on one occasion followed by 85 on a second occasion indicated she was of average intelligence, had an average IQ range and did not suffer from a significant pre-existing cognitive

¹⁷Dr. Kant drew a distinction between deriving an assessment based on pre-accident testing and data and the pre-accident functioning of an individual which can be assessed generally by a neuropsychologist as part of the evaluation and testing process. Id. at 54-55.

deficit. Id. at 80-82, 99-100. In this regard an individual with a normal IQ range of 85 to 92 would not be expected to be confused or lack the attendant organizational skills necessary to sustain substantial gainful employment on a full time basis. Id. at 99.

Steven M. Pacella, Ph.D., examined Donna on July 14, 2003, at the request of the Bureau of Disability Determination. Dr. Pacella is a licensed psychologist who has been board certified in forensic neuropsychology. Video-taped Testimony of Steve M. Pacella, Ph.D., at 5, 6, 8, 11. His background includes training and administration of neuropsychological examinations as well as working as a certified rehabilitation counselor in conjunction with the Office of Vocational Rehabilitation. Id. at 7, 10. Over the past twenty-three years he has conducted several thousand evaluations for the Bureau of Disability Determination. Id. at 6. Since 2007 he has also been testifying as a medical expert in disability review hearings. Id. at 7.

Dr. Pacella's evaluation consisted of a review of the medical records available, taking a history from Donna and performing a mental status examination. Id. at 11-12, 16. In obtaining a history, Dr. Parcella learned that Donna was a thirty year old married individual with one child who previously had been employed as a shipping clerk. Id. at 12. She did not remember much of the accident or its aftermath. She had no prior head trauma or central nervous system disturbances, was not a drug user, had not been in occupational speech therapy or physical therapy, but was receiving some counseling. Id. She was on several medications which included blood thinners, Effexor, medication to control bladder spasms, and aspirin. Id. She was a high school graduate with no high school failures or grade repetitions. Id. at 23. Dr. Parcella thought Donna was a reliable historian and made no attempt to malingering. Id. at 14.

Dr. Parcella reviewed the available medical records. These consisted of the history and physical record from Harmarville as well as the discharge summary. Id. at 20.

Objectively, she appeared lethargic and emotionally flat. She did not suffer from a perception disturbance and was not psychotic. Id. at 14. She was able to maintain clear and complete thinking but paused in the content of her thought. Id. She was unable to express herself in an articulate manner. She was a-spontaneous, which Dr. Parcella believed was a result of her frontal lobe injury. Id. at 13-14. Donna's speech was mildly dysarthric. In other words,

she had a motor speech disorder, but was entirely intelligible. Id. at 13. She had diminished verbal fluency, also known as expressive aphasia. Id. at 13. In other words, her ability to express herself in an articulate fashion had been significantly diminished as a result of injury to her left frontal lobe. Id.

A mental status examination revealed that Donna was unable to do more than very simple math. Although she could subtract six from ten, she could not multiply six quarters, divide twenty-four by three or perform similar mathematical calculations in her head. Id. at 15. Similarly, in the area of concentration, she could not perform serial sevens, i.e., subtract seven serially from one hundred. Id. at 28.

Moreover, Dr. Parcella's mental status examination revealed that Donna had significant difficulties with memory. She could not retrieve more than five digits forward or backward. Id. at 29. She could not recall three words after a brief interference. Id. She could not engage in mathematical reasoning. Id.

Dr. Parcella's diagnosis was that Donna "had dementia, that is, a cognitive disorder as a function of traumatic brain injury; that she was status post closed head injury with post injury CVA; and she had all the multiple trauma ... with complications that were demonstrated in the records." Id. at 15.

Dr. Parcella's assessment for the Bureau of Disability Determination was based on his subjective evaluation as well as the standards governing the assessment of an individual's ability to engage in substantial gainful activity under the Social Security Act. Id. at 16. This included the individual's ability to attend and concentrate, get along with others, memorize and execute, know and follow instructions, and engage in similar mental tasks and social activities. Id. at 16. An individual has to be able to perform all of these activities on a sustained basis in order to be able to engage in competitive employment. In other words, if an individual can only sustain job-related mental activity on a halting, short term basis and not on a repetitive and sustained basis, they are not employable as a practical matter. Id. at 17.

The level of brain damage observed by Dr. Parcella led him to conclude that Donna was disabled from employment. Id. at 11. He also concluded that she was unable to manage money

or handle financial affairs. Id. at 15. In addition, “at [that] time she, again, was, far too cognitively impaired ... to be able to drive safely [-] to be able to make quick decisions behind the wheel of a car.” Id. at 26-27.

As part of the evaluation process Dr. Parcella attempted to make an estimate of Donna’s pre-accident level of functioning. Id. at 22. Among other things, he took into account that she was a high school graduate and was working full time as a shipping clerk prior to the accident. Id. at 23, 32. In questioning her, she did not indicate she had to repeat English 10, English 11 and History 11 during high school. Id. at 23. Nor did she indicate that she had undergone psychological testing as part of her formal education. Id. at 24. Such information can be an important piece of information because it assists in establishing the baseline from which to evaluate the individual’s current level of functionality. Id. at 20-21. Furthermore, Dr. Parcella had no specific data on Donna’s pre-accident physical or intellectual level of functioning beyond the information historically relayed. Id. at 20. The information that Donna had to repeat two classes in English and one class in History during high school would have been an indication “that perhaps she wasn’t the student that she presented herself to be.” Id. at 24. Such information would not, however, have had any affect on Dr. Parcella’s determination as to whether she could engage in substantial gainful activity at the time of the evaluation. Id. at 32. She had been working full time, was a high school graduate and was able to engage in a number of activities of daily living. Id. at 32-33. Given this level of functioning and her post-accident impairments it “was a slam-dunk case in terms of what [was in] the medical records” and it was clear to Dr. Parcella that Donna “was severely brain damaged.” Id. at 34.

Several of Donna’s immediate family members provided their insight into and perspective about her recovery and residual functional abilities. Collectively, they provided insight into the practical impact Donna’s injuries had brought about in her and Greg Conn’s daily life during the long period of her recovery and the residual effects that continue to exist from those injuries. Across the boards their testimony was straightforward and forthright.

Donald and Barbara Jordan, Donna’s father and mother, spent extensive time with her immediately after the accident and during her long road to recovery. Donald Jordan had to work

on a regular basis and thus he spent less time than Barbara in caring for and tending to Donna's needs. They moved to a hotel directly across from Presbyterian Hospital immediately after Donna's stroke and stayed there during the remainder of her hospitalization. Trial Testimony of Donald Jordan (Doc. No. 61) at 209; Trial Testimony of Barbara Jordan (Doc. No 54) at 131. They arrived together along with Greg Conn on Friday evening after Donna had been life flighted to the hospital. Visitation during the first few days after the surgery was very limited. Donna was in the intensive care, had broken bones and could barely talk. She asked about her child, Zachary. Trial Testimony of Donald Jordan (Doc. No. 61) at 207-08. The day after the surgery she appeared to be doing better and became more awake. Trial Testimony of Barbara Jordan (Doc. No. 58) at 131. On the third night she began complaining of a bad headache and her one eye was fluttering. Id. at 132. Medical staff was informed. Id. By the next morning Donna had suffered the stroke and was comatose. Id. at 132-33. She remained comatose during the remainder of her hospitalization at Presby. Id. at 133.

After being returned to ICU Donna had numerous tubes, iv's and monitors attached to her. She had drain tubes attached to her scalp. She had the trech. A feeding tube was installed in her abdomen. Both of her lungs were collapsed and she had drain tubes in each. Id. at 134-35.

Donna was just starting to come out of the coma when she was transferred to Harmarville. Id. at 135. She was unable to speak. She would open her eyes, but then go right back to sleep. Id. After her admission staff began to stimulate her by talking loudly, moving her limbs and attempting to have her respond to commands. Id. at 137. Donna did not initially respond, but after a number of days she began to respond to movement commands. Id. at 137-38. During this time she was still in a sleep-like state. Id. at 138.

As she became more awake Donna became more aware and responsive. Id. at 145. As she became more responsive, she was able to move her hands and began trying to pull the trech out. Id. at 140. She did not know what it was and continued to try to remove it. Id. at 141. Eventually, both of her hands had to be tied with velcro to keep her from ripping the tube out and causing additional injury. Id. at 141.

Initially, Donna's recovery progressed very slowly. Trial Testimony of Donald Jordan

(Doc. No. 61) at 211. It was some time before she could even say a word or two and she was tired all the time. Id. at 211. Her first written words were “I’m very tired.” Id. at 211. After a few weeks Donna came to ask why she was in the facility, what had happened to her and why she could not go home. Trial Testimony of Barbara Jordan (Doc. No. 58) at 145.

The initial physical therapy progressed from in bed stimulation, to transferring to a wheelchair, to assisted efforts at ambulation and using the upper extremities. Id. at 141-143; Trial Testimony of Donald Jordan (Doc. No. 61) at 211. As the therapy progressed Donna experienced “so much pain” and often was not able to perform the requested activity. Id. at 143. The trech and feeding tube were removed after approximately two months of in-patient therapy. Id. at 139. Donna was discharged approximately two weeks later, shortly before Thanksgiving. Id.

Donna and Greg Conn moved in with Greg’s parents, Drenda and James Conn, following Donna’s release from Harmarville. Trial Testimony of Drenda Conn (Doc. No. 57) at 111-12. Donna had great difficulty going up and down stairs and James and Drenda’s house provided one-floor living accommodations. Id. at 113. Although Donna was able to walk at that point, she had difficulty with her balance and would stumble very easily. Id. at 114. She had significant difficulty with her vision. Her eyes were pointing in different directions, she had no depth perception and she was unable to grasp objects. Id. at 114-115. Her ability to ambulate improved within a month or so but her eye condition existed for well over a year. Id. at 115. During the first month she just slept and ate. Id. She did not know when to stop eating and gained a lot of weight. Id. at 116-117; see also Plaintiffs’ Exhibit No. 19a & 19b. She would repeat herself all the time, frequently telling the same story over and over again, even after she was made aware of her repetitiveness. Id. at 117-18. After a few months her tendency to repeat improved. Id. at 118. She had difficulty recognizing objects, coming up with the names of things, and often forgot the task she had just started out to perform. Id. at 119. She could not sit and play with her child. Id.

Donna and Greg moved back into their own home in February of 2003. Id. at 120-21. A new bathroom had been installed on the first level so Donna would not have to negotiate stairs

frequently. Trial Testimony of Drenda Conn at 91-92. Donna's ability to ambulate had significantly improved. Id. at 121. Nevertheless, she required "very close supervision." Id. at 121. Barbara Jordan would spend the day at Donna's house taking care of the cleaning, laundry and other housework. Id. In the evening Donna and Zachary would be brought over to James and Drenda's house until Greg got home from work. Id. at 121. Drenda began to cook meals for the extended family on several week nights as opposed to only a couple a times a week, which was customary prior to the accident. Id. at 98, 121-122.

Donna was unable to care for herself after the move in February of 2003. Trial Testimony of Barbara Jordan (Doc. No. 58) at 149. She was "like a little child" in that she could not be left alone. Id. While she was improving and could ambulate, Donna still had to be assisted in getting in and out of the shower and was really not able to care for herself or her child. Id. at 149-50. She continued to suffer from incontinence for a substantial period of time. Id. at 151. On the typical day Barbara would watch Donna throughout the day, then take her to Drenda and James' house where the extended Conn family would have supper. Greg would take Donna back to their house at night. Id. at 153-54.

Donna's ability to function and perform the activities of daily living improved slowly over time. Her ability to walk and do modest physical activity steadily improved. In the summer of 2003 she began treatment with Dr. Zaitoon for enuresis. Dr. Zaitoon treated her with a combination of two medications and a bladder training program. Government's Exhibit L at 3. By November of 2003, Donna was accident free and without side effects from the medications. Dr. Zaitoon hoped to taper her off the medication in the coming months. Id. at 2. In February of 2004 Dr. Zaitoon suggested a gradual tapering of the medication to see if it could be discontinued. Id. at 1. The efforts to do so were unsuccessful and Donna is still required to take medication daily. Trial Testimony of Barbara Jordan (Doc. No. 58) at 151; Trial Testimony of Donna Conn (Doc. No. 58) at 33. The medication works and does not produce side effects. Id. at 53.

Donna's sight remained distorted for a lengthy period of time. Id. at 57. For the first year she functioned by closing one eye. Id. at 154-157. After that the condition was treated with

glasses that had a prism on one lense. Donna was able to see with the special lenses and over time her misaligned eyes were corrected. Id. at 55-56; Letter of May 15, 2007, by Dr. Kennerdell (Government Exhibit “J”).

By February of 2005, Donna’s recovery had progressed significantly. She returned to Harmarville to be re-evaluated in an effort to obtain her driver’s license. Trial Testimony of Donna Conn (Doc. No. 58) at 61-62. After being initially cleared to undertake the process, she underwent numerous tests at the rehabilitation center. Id. at 65. She then obtained the paperwork necessary to present an application to the Department of Transportation. The testing included both mental and physical components. She received clearance to apply for a driver’s license with the Department of Transportation. Id. She then took an actual driving examination and passed. Id. at 66-67. She has been driving since then.

Donna has given birth to two children in the last few years. Id. at 36. Noah was born on January 16, 2006. Hanna was born on December 16, 2007. Id. She was unable to take Effexor during the pregnancies, which made it difficult for her to control her emotions. She frequently was angry, moody and irritable. She was aware that these symptoms were adversely affecting others around her. Video-taped Testimony of Dr. Kant at 20, 34; Intake Questionnaire for Dr. Kant (Government Exhibit V) at 3.

Donna is now the primary care-giver to the children. Trial Testimony of Donna Conn (Doc. No. 58) at 72. She is able to go to the store and conduct transactions, such as purchasing items through the WIC program or completing a simple cash transaction. Id. at 81. She goes to stores such as K-Mart and Wal-Mart and purchases household items. Id. at 82. She takes Greg’s paycheck to the credit union for deposit. Id. at 83. She can use a cell phone and purchase gasoline in prepaid amounts. Id. at 85-86. She can go to a convenience store and buy cigarettes, soda and similar items. Id. at 88. She can go through a McDonald’s drive-through and purchase food for herself and the children with cash. Id. at 89.

Donna is able to take the children for doctor’s appointments and periodic check-ups. Id. at 100-01. She is able to sign releases for them to receive inoculations. She receives instructions from the pediatricians about child care. Id. at 103-05.

Notwithstanding her tremendous advances in functional ability, Donna continues to have significant limitations. She has constant pain in her hip, which fluctuates in degree based on the amount of physical activity undertaken on the previous day. Id. at 34-35. The more walking or physical activity she does on any one day, the more pain she has in her hip the next. Id. at 35. She takes Tylenol for the pain as necessary. Id. at 58. She tires more easily. Id. at 25. She does not have the speed or stamina she use to and she cannot do a lot of walking. Id. at 39. She is required to sit often throughout the day. Id. at 71.

Donna also has significant emotional and mental limitations. She gets confused a lot. Id. at 25, 39. She has good days and bad days. Id. at 25. She frequently needs to be reminded and prompted about completing household chores such as cleaning, doing the dishes, laundry and so forth. Trial Testimony of Drenda Conn (Doc. No. 57) at 129-31; Trial Testimony of Barbara Jordan (Doc. No. 58) at 155-58.

Donna's driving generally is limited to the local area with which she is familiar. For instance, she is able to drive without difficulty in the Scottsdale and Mount Pleasant area and similar places she was familiar with prior to the accident. Testimony of Gregg Conn (Doc. No. 58) at 181-183. In contrast, when she takes the children to Greensburg for an appointment, she will lose her sense of direction, be unable to determine how to get home and have to call in order to figure out how to get home. Id. at 183-85. On occasion she has had difficulty going to and recognizing places she use to frequent repeatedly, such as the hair salon. Trial Testimony of Drenda Conn (Doc. No. 57) at 125-26.

Each family member provided testimony concerning the changes they saw in Donna's personality and mind-set after her recovery. Prior to the accident, Donna was quite "head strong," energetic, happy and full of spunk. Several witnesses explained that by head strong," they meant that once Donna had made a determination about a situation or something to be accomplished, she stood by her decision and/or persisted in accomplishing her goal or vindicating her viewpoint. Donna's father explained this trait as follows:

She was always pretty head strong. And she made her own decisions. When she had her mind made up to do something, that's what she was going to do. And I always installed that in her. I wanted

her to be like me. That's kinda the way I am, too. I didn't want anyone telling her what to do. But she was always, always that way. She just had her mind made up to do something and she was going to do it.

Trial Testimony of Donald Jordan (Doc. No. 61) at 214-15. He further explained that Donna "always was ready to go on time" and typically was early for any planned occasion or event. Id. at 215. Donna's mother also briefly commented on this trait:

Donna was always a head strong girl. We've always told her she could do whatever she put her mind to do. She was a very happy individual. She loved to laugh. Have fun. You know, just be happy all around. Just-she was just an all-around happy person.

Trial Testimony of Barbara Jordan (Doc. No. 58) at 123. She added the following about Donna's level of determination:

Oh, yes [she was one to express her opinion]. She was headstrong. She expressed her opinions very well. She didn't complain to like if she wasn't feeling good, if she had a headache or something was wrong. She didn't complain that way. But if something, if she wanted something and you didn't want her to have it, she was going to let you know why she should have it.

Id. at 143-144.

Donna's supervisor from where she was employed for several years prior to the accident provided similar descriptions of this trait:

Donna was kind of head strong; okay? She wasn't one to back down; okay? So, she is just that type of individual. She was. And she used to get into, and I don't mean heat arguments, but she stood her ground. She wasn't about to give in if she felt she right. So, she was willing to argue that point.

Question: And with whom?

Answer: With just about anybody. You know, it could not [be] with our customers, of course. She would never do that. She knew that. But, internally, with the people that [were] either, you know, in the office. I mean, I have had run-ins with Donna, also. I mean, I am sure we've all had that in life, somewhere along the line.

So, you know in one sense, I thought it was a strong sense for her because she was so headstrong and was not willing to compromise on things she felt [were] right or didn't want to change if she knew that she could be more efficient in a certain way; okay?

Trial Testimony of Robert McElfresh (Doc. No. 61) at 162-63. He similarly noted on a performance review that Donna was a "self starter - knows what needs to be done and does it

without hesitation.” Id. at 161. Greg Conn similarly described his wife as “spunky” and stressed that prior to the accident “she knew how to take care of things.” Trial Testimony of Greg Conn (Doc. No. 58) at 177.

Donna’s immediate family members and prior work supervisor also emphasized the strong organizational and task-oriented skills Donna possessed prior to the accident. Donna Jordan used an example of preparing Zachary for outings to emphasize Donna’s strong preparation and organization skills, explaining that she always had Zachary’s things ready, travel packs prepared and packed, clothes laid out and so forth. Trial Testimony of Barbara Jordan (Doc. No. 58) at 157. James Conn used an example of preparing for and organizing Zachary’s birthday parties to emphasize similar traits. He explained that for Zachary’s first and second birthday parties, she started planning months before hand, developed a theme and then acquired decorations and serving ware that matched the theme. Invitations were sent out weeks in advance to a large number of people and the parties were well attended events. Trial Testimony of James Conn (Doc. No. 61) at 115. Drenda Conn similarly emphasized that Donna was often able to organize and budget her time well throughout the day, maintaining full-time employment, playing with her son, going horseback riding, doing the shopping, visiting with friends, and taking care of the laundry and other household chores, and managing to balance all of these activities without any problem. Trial Testimony of Drenda Conn (Doc. No. 57) at 126-27.

Donna’s employment history at “Williamhouse,” now known as National Envelope, reflected advancements based in part on her strong organizational and problem-solving skills according to Donna’s immediate supervisor, Robert McElfresh. National Envelope is in the business of producing preprinted envelopes and wedding line invitations and mailing materials. Trial Testimony of Robert McElfresh (Doc. No. 61) at 122. The company produces and frequently ships 25 to 30 million envelopes a day. Id. at 127. It’s customers range from small print shops that will buy a thousand envelopes to large customers such as Bank of America, which will order 10 million envelopes or more at a time. Id.

Donna was hired at Williamhouse in November of 1994 and initially performed the position known as a “customs clerk.” Id. at 127-33. As part of that position she would verify

production tags to assure they contain the correct order number, which includes a part number and quantity for the order. She would verify any special instructions, such as they way the order was to be packaged for shipment, stacked or some similar customer demand. Id. at 129. She would enter the product into the system after it was placed in the warehouse. Id. She would also keep track of whether the stock produced reflected a partial or complete order. The actual quantity and location would be put into the system, along with any additional coding necessary for additional operations, such as printing. Id. at 31-32. The custom clerk would then prepare tags for additional processing as necessary. Id. at 132.

Within two years Donna was promoted into the shipping department and placed on first shift. Id. at 127-28. She received the promotion as a result of sufficient cross-training and her desire to learn more about the business. Id. at 128. At that point Donna came under McElfresh's supervision. Id. at 124, 137. She held the position of shipping clerk, which required her to deal with several customer service people. She entered shipping orders, created shipping orders, and dealt with customer service, which included taking care of problems that arose with any particular order, such as problems with stock. Id. The position required her to gather a significant amount of information about operations in general and have particular knowledge about customers and their order requirements. Id. at 137-38.

The business expanded into retail and Donna became responsible for the top five customer accounts in addition to matters that arose with other customers during the course of the day. Id. at 138. She would release orders to the top five customers as stock became available. These customers were high profile accounts, such as Wal-Mart, Staples, Quill, MyPrint and Office America. Id. at 138-39. She became responsible for making sure the orders for those customers were complete, which meant tracking through the computer why certain components of the order were not yet produced, talking to production supervisors, checking with customs clerks, and so forth. Id. at 139-141. Once an order was complete, she had to schedule the trucks to pick up the product at the plant and set up appointments for delivery with the customers at their various distribution centers. Id. at 139-43. The top customers often had 25-30 truckloads of envelopes leaving the plant everyday. Id. at 139. She would coordinate the arrival of the

trucks and the loading of stock in an effort to assure that demurrage charges were not incurred for trucks sitting idle, and she would work with customer representatives to coordinate the arrival of the product at various distribution centers throughout the United States. Id. at 141-144.

Donna was required to go through extensive on-the-job training in order to become a shipping clerk. The training involved rotating through all the shifts in order to gain a comprehensive understanding of the many facets of the job. Id. at 145. After doing so she returned to daylight shift and set up computer programs to help her keep track of specific information concerning particular customers. Id. at 147. She acquired great data entry skills and made few if any mistakes. Id. at 148-49. She was able to grasp the job quickly and did not require ongoing or repetitive instructions in dealing with the large customer accounts. Id. at 149. The position was fast-paced and involved quick changes that were based on input from numerous sources. Id. at 150-151. It required significant organizational skills, customer relation skills and the ability to coordinate a large amount of information from various sources in order to keep shipping on both the departure and receiving ends running smoothly. Id. at 151-153. Donna's responsibility for the company's five largest customers reflected a testament to her competency and organizational skills. Id. at 149.

McElfresh completed a job performance evaluation after Donna had worked as a shipping clerk for approximately three years. Id. at 155-57. She received high ratings in almost every area. She exceeded expectations and seldom needed help in the area of job knowledge. Id. at 159. She had exceptional ability to adapt to different jobs. Id. at 160-161. Her quality of work and productivity both were outstanding; her data entry exceeded quality standards with few errors and she exceeded standards in other areas such as outsourcing, handling special accounts and maintaining excellent output. Id. at 161. Her initiative exceeded expectations; she was a self-starter, knew what needed to be done, and did it without hesitation. Id. at 161. As a team player she met expectations; she needed to improve communications with co-workers and was willing to do so. The difficulty was she was kind of "head strong" and "stood her ground," particularly where she felt she was right. And in those situations she was willing to argue the point with just about anyone in the office. Id. at 162-63. She was dependable and willing to work over when

needed, often on the spur of the moment. Id. at 164. She exceeded expectations in exercising judgment in that she examined situations thoroughly before making decisions and would ask questions if she was unsure. Id. at 165. She exceeded expectations in adaptability with a need to improve in responding to situations under pressure. Id. at 165. She had excellent organizational skills in the “work side” of the job; but needed to improve in organizing personal space, such as her desk. Id. at 165-66. In the area of judgments and strengths, McElfresh noted that Donna was “very knowledgeable, with a high quality and quantity work output [, had] good judgment along with adaptability, and [was] always willing to help others.” Id. at 169-70. Areas for improvement included communication, planning and proper advertising skills, more developmental involvement, improving self-control and avoiding getting overly excited. Id. at 170-71. Overall, Donna performed her job duties in a manner that exceeded expectations and the expected standard of performance. Id. at 171.¹⁸

Several family members emphasized that Donna’s ability to initiate tasks, engage in and carry out organizational planning and judge the amount of time needed for task completion have been substantially impaired as a result of the accident. Donna’s father emphasized that she no longer takes the initiative or plans things and simply does “what everybody tells her to do.” Trial Testimony of Donald Jordan (Doc No. 61) at 215. “Everything’s okay [and] ... she just doesn’t do anything on her own as far as wanting to do something.” Id. at 215. She is “constantly late”

¹⁸Between January of 2001 and July of 2002, Donna received four verbal and four written counseling sessions for accumulated instances of tardiness or work absences. The company maintained a “no excuse policy,” wherein any instance of tardiness or absence would result in the accumulation of points. Points were carried by an employee until a certain amount of time passed without absences or instances of tardiness. Many of the counseling sessions were based on the cumulative effect from points that had resulted in a prior session and had not yet been eliminated. For instance, Donna received one point for absences on February 5, March 15 and May 11 of 2001, as well as one-half a point based on instances of tardiness on April 16, May 21 and May 22 of 2001, resulting in a verbal counseling session. All of these point accumulations except the one assigned on February 5, 2001, were included in a written counseling session on August 20, 2001, after Donna had one additional absence on August 20, 2001, and two additional instances of tardiness on May 25 and August 17, 2001. In general, an employee received and accumulated points notwithstanding the explanation or reason given for an absence or instance of tardiness. Id. at 183-84.

and is unable to estimate the time needed to get ready on time for outings and events. Id.

Donna's mother likewise emphasized Donna's post-accident impairment in organizational and planning skills. She explained that shortcomings in these areas contribute to why she still has to oversee and help out with shopping, laundry and other household maintenance activities on a regular basis:

Q: You used the expression that, you know that Donna can't get it done. Is that because she got additional children or that for some other reason?

A: No. She just-she thinks she has plenty of time. She doesn't comprehend the fact that it takes like an hour to wash a load of clothes and you have four loads of clothes to do, so that's four hours. And you need to have them done by a certain time. Come on, Donna. You got to get this going. Well, okay. I'll get them done.

And after about four times she gets upset with me if I say you go put the clothes in. Fine. I'll go put them in the washer. And, it's like she has time. What am I being so- what am I saying this for? It's okay. She'll get it done. But it never gets done, so, without me doing it or really coming down and saying it, come on, Donna you got to get this done this has to get done.

And, for her, I don't want to say that this is everyday. I mean there are days she has she'll get caught up and I've gone over whoa Donna. You've got the dishwasher loaded. You've got the dirty piles loaded up, ready to go well, yes. What's the big deal? Yet if I go tomorrow, there's all the dirty laundry, lying. You know, it just depends.

Trial Testimony of Barbara Jordan (Doc. No. 58) at 161-62. Barbara Jordan made a similar observation with regard to Donna's ability to prepare for outings: "she has no - there's no comprehension there [that there is a] need to start getting ready a little earlier so [she] can be ready to leave at a certain time - she was never ... like that before." Id. at 163.

Drenda Conn observed similar limitations in Donna's organizational and planning abilities. She explained Donna frequently doesn't recognize the need to take an additional step in order to complete a task and provided an example in daily life:

[Donna's mother comes over regularly to help with the laundry and housecleaning]. And Donna helps if someone is there to tell her what to do.

Q: Elaborate on that for me a little bit?

A: Well, even the, the dishes maybe they'll go in the sink and Greg will say, let's clean up the kitchen. Let's get started. Let's load the dishwasher.

So, then, she'll go load the dishwasher. And then they just stay there. Doesn't go any further until someone says, well, and tells her what to do. Then, she goes and does it. It never occurs to her to go ahead and do something.

Q: Was this something that you observed about her before she was injured?

A: No.

Trial Testimony of Drenda Conn (Doc. No. 57) at 130-31.

James Conn, who worked as an organization development and training specialist for Allegheny Ludlum Steel Corporation, likewise expressed his observation that "the big difference between then and now [in her ability to be a mother and housewife] is in her planning and organizing skills." *Id.* at 114-115. He provided the following example about planning for Zachary's recent birthday party:

In contrast, last year's birthday, Greg did the planning for [Zachary]'s birthday party. Donna's job was to send out the invitations. And I think it was two days before and the invitations hadn't been sent out. So, they had to make some quick phone calls to invite people to his birthday party. That's the big difference that I see.

Trial Testimony of James Conn (Doc. No. 61) at 115-16.

Family members also observed other changes in Donna's personality. Drenda Conn emphasized that even after the recovery Donna appears to have reverted in her level of maturity. When asked how she would "describe [Donna's] personality, now," she responded:

Donna is - she's kind of like a teenager. Child-like. It just seems like she regressed back in time.

Q: What are the manifestations of that? How does she show that you have observed?

A: Well, she, for instance, she was smoking and she was scared to death that her parents were going to find ... not while she was pregnant. But even just recently, she had taken it up again. And she was so frightened that her mom and dad were going to find out. And she thought they wouldn't speak to her if they knew that.

Q: Did you find this unusual in her personality, that she should be reacting that way?

A: Well, not how she has been since the accident. I, think that's more of a teen-age thought. That, oh, my. What is going to happen when mom and dad find out that I did this.

Trial Testimony of Drenda Conn (Doc. No. 57) at 128-29. Another change noted by both of Donna's parents is that her personality is "much more subdued." Trial Testimony of James Conn (Doc. No. 61) at 119. Her mother explained:

Q: You were, you've also told me about the way she articulates now and what her favorite expression is?

A: Whatever. That is her favorite expression.

Q: Is that the way she was before?

A: Oh, no. Oh, no. She would tell you. And now, if you ask her opinion, it's like she has no opinion anymore. Well, what are you going to wear? I don't know. Well, do you think you'll pick something out? Let's get something ready. Whatever.

Trial Testimony of Barbara Jordan (Doc. No. 58) at 163.

Plaintiffs presented testimony from Dr. Matthew Marlin, a professor of economics at Duquesne University, on the economic losses sustained by Donna and Greg Conn as a result of the accident.¹⁹ Dr. Marlin completed a report on both present and future losses. He included as components lost wages, employer-paid social security contributions, employer-paid health care benefits and lost household services. *Id.* at 223; see also Economic Loss Tables (Plaintiffs' Exhibit No. 15).

¹⁹Dr. Marlin has been on the faculty at Duquesne University since 1987. He became a full professor in 1994. He has been chairman of the Economics Department for the past two years. Trial Testimony of Dr. Marlin (Doc. No. 61) at 219. He belongs to the American Association of Economic and Financial Experts, the National Association of Forensic Economists and the American Economics Association. *Id.* at 222. He is on a peer reviewed journal known as "Legal Economics" and he is the Vice President and President Elect of the Academy of Economic and Financial Experts. *Id.* at 223. He has written a text book titled the "Study of Economics" which was published in 2000. *Id.* at 223. And he has done several economic reports in personal injury cases. *Id.* at 221.

Dr. Marlin used Donna's past actual wages to calculate the loss of income and employer-paid benefits. Id. at 255. He multiplied her weekly wages by 52 to determine the annual wages that she would have earned in 2002. For losses through the date of his report, February of 2008, he adjusted the wages and corresponding employer-paid social security contributions to reflect the annual wage increases reported by the Index of Wage computed by the Bureau of Labor Statistics. Id. at 255. Estimates of the cost of health insurance were based on a survey of estimates produced by the Kizer Family Foundation. Id. at 237. Past economic losses consisted of \$112,00 in income, \$21,000 in health insurance and \$6,000 in social security contributions, for a total of \$139,000. Id. at 239-40, 253.

Dr. Marlin also estimated the value of past and future losses of household services. A "shadow price" was used to establish the value of such services. Computations from the "Dollar Value of the Day" published by "Expectancy Data" were used in conjunction with basic demographic information correlating to Donna's age, the age of her children, and other expected household circumstances. Id. at 246-47, 262-64. A critical assumption was Donna and Greg's determination that during the first year following the accident Donna lost about 95 percent of her capacity to do household chores; 75 percent during the second and third years; 55 percent during the fourth year and 25 percent in the fifth year. Id. at 265, 271. Another was that Donna did not experience any additional improvement after the fifth year and her capacity to provide household services would remain diminished by 25 percent for the rest of her life. Id. at 275. Based on these and other assumptions the loss through the date of the report for lost household services was estimated at \$52,000. Id. at 253.

Dr. Marlin also estimated future economic losses. He made these calculations based on Donna's work-life expectancy as opposed to her work-life capacity. Id. at 227-29.²⁰ The

²⁰Work-life capacity reflects the total number of years an individual could potentially work from the date of an injury until full retirement. Donna was 29.5 years of age at the time of the accident and will reached full retirement age at 67, resulting a work life capacity of 37.6 years. Id. at 227-28. Work-life expectancy, in contrast, is based on a statistical estimate of the amount of time an individual will actually work during his or her work life capacity, taking into account various life events such as the potential for illness, injury, voluntary withdraw from the

calculations included future productivity gains, which were based upon the more conservative projection of 1.1 percent by the Social Security Administration, as opposed to the 1.7 percent projected by the Bureau of Labor Statistics. Id. at 155-57. Employer social security contributions were based on 5.3 percent of yearly wages. Id. at 161. Health care costs were calculated conservatively with no increase above the 2009 estimate. Id. at 261. Based on the assumption that Donna would be unable to return to the workforce, the combined loss in income, social security contributions and health insurance totaled \$624,000 for her work-life expectancy. An increase to work-life capacity nets a loss of \$1,034,000 for the same components. The future loss for the value of household services is \$171,000, which takes into account projected events where the provision of household services increases or decreases based on changing life circumstances, such as retirement and children reaching the age of maturity.

Dr. Marlin calculated total economic losses based on estimated losses through the date of the report and future losses. Using work-life expectancy and the factors and assumptions noted above, the total economic loss would be \$986,000. Using work-life capacity, the total economic loss would be \$1,396,000. Id. at 267; Plaintiffs' Exhibit No. 16 at Table 6.

Defendant presented video-taped surveillance taken by Gentile-Meinert Associates, Inc., a licensed private detective agency. Trial Testimony of Vincent Pinchotti (Doc. No. 58) at 209-211, 222, 280. Surveillance was conducted on thirteen days between January 31, 2008, and May 26, 2008. Id. at 222, 247; see also Government Exhibit S-3. Specifically, surveillance video was shot on January 31, February 6, 12, and 15, March 6, 13, 14, 24, April 21, 24, May 12, and May 26, 2008. Government Exhibit S-3.

Pursuant to government counsel's directive, two highlight tapes were prepared. Trial Testimony of Vincent Pinchotti (Doc. No. 58) at 271. These tapes consisted of footage from five of the thirteen dates. Id. at 218-19; see also Government Exhibit Nos. S-1 & S-2. They present about 40 minutes of approximately 60 hours expended toward obtaining surveillance video

workforce, time off for child bearing, and so forth. Id. at 229-30. Data from a widely accepted study appearing in the Published Journal of Economics indicates that statistically Donna could be expected to work 24.9 of the years comprising her work-life capacity. Id.

footage. Trial Testimony of Vincent Pinchotti (Doc. No. 58) at 224, 226, 245, 271, 280). There were occasions during the surveillance operation when recording could not be accomplished due to logistical impediments. Trial Testimony of Matthew Grotkowski (Doc. No. 58) at 263; Trial Testimony of Vincent Pinchotti (Doc. No. 58) at 281.

The video-taped surveillance depicts Donna engaging in various activities such as driving, shopping, running errands, taking her children to a doctor's appointment and doing light physical activity. The images were proffered in order to show visually her ability to function physically and mentally. Comment of Government Counsel (Doc. No. 58) at 235. Specific events included Donna driving on the morning of January 31, 2008, to Advanced Auto Technology, which is located a few miles from the Conn residence. Trial Testimony of Vincent Pinchotti (Doc. No. 58) at 239-40. A short time later she traveled to Laurel View Manner in the Scottdale, Mt. Pleasant area where Donald and Barbara Jordan reside. Id. at 241. On another occasion Donna drove to a K-Mart store approximately ten miles from her residence. Id. at 245. On March 14, 2008, Donna drove to Walmart and went shopping. Id. at 249. She left the parking lot with her children in the vehicle and drove to McDonalds and purchased food. Id. at 250.

On April 24, 2008, Donna was outside the Conn residence visiting with her husband and father-in-law on a pleasant Spring day. Id. at 251. Hannan Conn appears and Donna picks up the toddler.

On May 12, 2008, Donna left the house at approximately 10:20 a.m., traveled to church and returned within the hour. Trial Testimony of Matthew Grotkowski (Doc. No. 58) at 252, 259-60. She then took one of her children to a doctor's appointment at a physician's office on Emerson Drive in Scottdale, Pennsylvania, shortly after noon. Id. at 253. After the appointment Donna proceeded to a Sheetz gas station and purchased gasoline. Id. at 253. By 1:20 p.m., Donna proceeded to Walmart where she met her mother, who has been watching one of Donna's other children. Id. at 255. Donna took both children in her vehicle and drove to a local car wash. Id. at 255. She put money in the vacuum and vacuumed the interior of her vehicle. She spent about 10 minutes at the car wash, of which approximately 5 minutes were devoted to vacuuming.

Id. at 263, 266. From there she proceeded to K-Mart at approximately 2:20 p.m. and returned home by 2:45 p.m. Id. at 257.

The regularity and frequency with which a subject does physical activities are factors taken into account by Gentile-Meinert in determining when and for how long surveillance is undertaken. Trial Testimony of Vincent Pinchotti (Doc. No. 58) at 273. Weather also plays a role. Id. at 274. Surveillance was undertaken on days when there was lots of snow on the ground, but Donna was never observed shoveling snow. Id. at 274-75. On May 12, 2008, Donna was out for approximately four and a half hours, 45 minutes of which were spent at the doctor's office. Trial Testimony of Matthew Gotkowski (Doc. No. 58) at 251-257, 259-60, 264-65.

Dr. John Stephen Shymansky, M.D., reviewed various medical records, Donna's deposition testimony and high school records, and the surveillance recordings at the government's request in order to formulate an opinion regarding the cause and extent of Donna's injuries and her present ability to function and work. Trial Testimony of Dr. Shymansky (Doc. No. 59) at 7-17. Dr. Shymansky is a neurologist who specializes in the treatment of the diseases of the nervous system which stem from spinal problems, trauma to the brain, trauma to the spine, seizures, stroke, mental retardation, multiple sclerosis and so forth. Id. at 10. He is boardcertified in neurology with added certification in neurophysiology along with special board certification in neurosinology (involving ultrasound of the vessels of the brain and blood vessels of the brain) and neuroradiology (interpreting of CT scans and MRI scans). Id. at 11. He has treated patients with injuries similar to those sustained by Donna with a goal of trying to restore those patients to the way they were before they suffered the disease in question. Id. at 12-13.

Dr. Shymansky reviewed Donna's UPMC medical records, the medical records from Harmarville, and Dr. Franz's records. Id. at 15. He also reviewed the records from neuropsychologists Dr. Ratcliff and Dr. Lovel, as well as records from the government's expert psychiatrist, Dr. Cosgrove. Id. at 15.

Dr. Shymansky opined that an accurate understanding of one's prior intellectual level of functioning is necessary in order to ascertain the degree of deficits caused by a traumatic brain injury or similar condition produced by a disease of the nervous system. Id. at 17-19. He would

have expected Dr. Ratcliff and Dr. Franz to have reviewed any pre-accident data in order to determine what Donna's baseline level of intellectual functioning was prior to analyzing post-accident test results and drawing "a meaningful conclusion" about the degree of improvement attained during her recovery. Id. at 19.

Dr. Shymansky opined that Donna's school records reflected some cognitive problems and deficits during her high school years and her fifth and seventh grade scores from the Wechsler Intellectual Scale for Children-Revised testing reflected below the average range scores in several categories. Id. at 19-20. Problems identified in the seventh grade included difficulty with reading, math and visual-spatial perceptions. Id. at 21. These areas correlate and have some similarities with the deficiencies identified in Dr. Ratcliff and Dr. Lovel's post-accident testing. Id. at 22. The correlation was very similar in the areas of visual-spatial and reading deficiencies. Id. To be sure, the degree of head trauma suffered by Donna was significant and it produced cognitive impairment that cannot be explained by her pre-accident level of intellectual functioning. Id. at 23. But she was "below average" and thus the physicians that assumed she was "an average person" prior to the injury would have attributed a greater degree of deficits from the injury than were actually produced. Id. at 23-25. This is not to say that the accident did not play some role in producing her current cognitive deficits. Id. at 23. "But, it's difficult to really quantitate [the degree to which the accident contributed to her deficits] with a number." Id. at 23.

Moreover, Donna's ability to drive and be the primary care giver for three young children clearly signifies a dramatic recovery. Id. at 27-33. Driving shows the ability to engage in complex activity that involves interpreting numerous forms of visual information and making numerous cognitive calculations and assessments. Id. at 27-28. Donna is ability to drive both on country roads and in more of a city-like environment, negotiate traffic lights and stop signs, travel in and out of store parking lots and complete similar complex functions. Id. at 29. She is able to tend to her children, such as drive them to doctor's appointments, transport them to and from school, meet with teachers, go over performance evaluations and generally perform the taxing and demanding job of being the primary care-giver to three young children. Id. at 31-33.

Functioning at such levels and being able to perform such complex tasks shows that her brain has been able to develop alternative ways to relearn behavior and reroute circuits, demonstrating it is very plastic and resulting in a dramatic recovery. Id. at 34-36. As a result she is able to go on with life in a meaningful way. Id. at 36. In this regard, Dr. Shymansky concurs with Dr. Franz's findings of June 27, 2007, that Donna has experienced improve speech fluency and improved content of her speech, has had a dramatic recovery from her injuries and stroke and her findings on physical examination are minimal and nearly normal to date. Id. at 37. His opinions are also consistent with Dr. Franz's assessment that while there almost certainly will be subtle deficits on a formal neuropsychological or standardized speech testing, Donna has been able to resume her desired activities at home and would be considered to be at maximum medical improvement. Id. at 39.

It is Dr. Shymansky's opinion that as a result of her injuries Donna does have a higher risk for premature dementia and seizure disorder than the general population. Id. at 40. He would not comment on a specific degree, but he would not place her in a category of "high risk." Id. at 40. In other words, while people with significant head trauma do have a higher risk for having dementia or a seizure disorder as they grow older, it is just an increase in statistical probability and is not likely. Id. at 41. And with the passage of time the odds of having a seizure disorder further decrease. Id. at 41.

Dr. Shymansky concluded that Donna is employable. Id. at 42. His opinion is informed from three sources in the information. One, no physician has indicated she cannot work or shouldn't try to find employment. Two, he did not see anything in the medical records that would lead him to believe she could not work. Finally, the video-taped surveillance reflected what could be described as a job in itself: getting in and out of a vehicle, driving, picking up children and safely securing them in the vehicle, shopping and so forth. Id. at 43. All of these activities require "a sound mind, good judgment." Id. at 43. And while doing these activities she did not appear to be in any pain or distress. Id. at 43-44.

Dr. Shymansky conceded on cross examination that he never examined Donna and he would expect continuing deficits from the degree of injury and trauma that occurred. Id. at 45-

47. Similarly, he does not know anything about her personality vis-a-vis before and after the accident. Id. at 71.

As part of his report Dr. Shymansky concluded that Donna “would likely be able” to return to her past job. Id. at 48-49. This opinion was formed without having a job description of her prior position, without reviewing her employment records and with no understanding of the complexity of her past job. Id. at 51. It also was formed without having reviewed the surveillance films made available to the court. Id. at 51. Assuming Donna would be unable to return to her prior position of employment, she would be able to perform a job in childcare. Id. at 89.

Dr. Shymansky likewise agrees that traumatic brain injury increases the risk of premature dementia and Donna’s risk of developing premature dementia is greater than a person who has not sustained a traumatic injury. Id. at 54-55. He does not dispute that the degree of severity of the injury “equates” with the degree of increased risk for premature dementia. Id. at 55. The same is true with regard to developing a seizure disorder: Donna is at greater risk for seizure episodes and the degree of severity of the injury equates with the degree or risk for developing epilepsy or seizures. Id. at 55.

Dr. Shymansky’s assessment that Donna’s school records reflected below average intellectual functioning generally was based on the common reference of average IQ being between the 90th and 100th percentile range. Id. at 58-59. By this measure, a full scale IQ of 85 would be below the average. Id. at 59. Her full scale IQ of 92 in the fifth grade would, however, be average. Id. at 61. The actual scoring on the Wechsler Intelligence Scale for Children-Revised places a full scale IQ score of 85 “in the low end of the average range.” Id. at 63. And her individual performance scale score was somewhere below average.²¹ Id. at 63. None of her sub-test scores were in the middle average or above average range and some (3 out of 12) were in

²¹Performance scale scores on the Weschler Intelligence Scale testing measure cognitive functions pertaining to visual perception and visual-spatial recognition. Id. at 75. The verbal section tests cognitive skills relating to conversing and carrying on a conversation, understanding direction, repeating directions and giving instructions to others. Id. at 75.

the retarded range. Id. at 63; see also Psychological Report from Intermediate Unit of Fayette-Green-Washington County Special Education and Services (Government Exhibit E) at 2. Her scores fell in the low end of average on the scale, which area was designated as a slow learner. Id. at 78.

Similarly, Dr. Shymansky conceded that Donna's grades from her junior and senior years generally consisted of average to above average grades. Id. at 63-65. When she repeated classes such as algebra and advanced math, her grades improved to scores in the high 70's and low 80's. Id. at 68-69. But in her sophomore year Donna received below average grades in English, World Culture, Biology and Algebra. Id. at 81. She repeated English, Biology and Algebra in the eleventh grade. She repeated English 11 and U.P. History in her senior year. Id. at 83. From Dr. Shymansky's perspective, these grades do not reflect somebody of average intelligence. Id. at 85.

Unlike Dr. Ratcliff, Dr. Shymansky's opinion is that intelligence testing is a good way to detect the effects of brain injuries. Id. at 91. Nevertheless, it is not a efficient means of detecting those effects in most cases. Id. at 92. He relies on neuropsychological testing to assist in the treatment of his patients. Id. at 95. He also agrees that Donna's verbal learning and object recognition clearly are impaired and that she has deficits that are not explained by her prior IQ testing. Id. at 93-95. Nevertheless, from his perspective there was an impairment evidenced in Donna's middle and high school records that must be taken into account. Id. at 95.

Robert Lovett Cosgrove, M.D., conducted a review of information relating to Donna's injuries and recovery at the request of the government in order to form opinions on the cause, extent and recovery of her injuries. Trial Testimony of Dr. Cosgrove (Doc. 59) at 97-103. Dr. Cosgrove is board certified in physical medicine and rehabilitation, with an added qualification in pain medicine. Id. at 99. He is also board certified in electro-diagnostic medicine. Id. at 100. His past employment included the position of medical director of the head trauma unit at Harmarville as well as six years with the University of Pittsburgh Medical Center. Id. at 101. He currently has a clinical practice in physical medicine and rehabilitation with a speciality in pain management. Over the years he has treated patients with a variety of neurologic and musculoskeletal disorders. Id. at 101.

Dr. Cosgrove reviewed the in-patient records from UPMC-Presbyterian and Harmarville, the outpatient records from Harmarville, including the records from Dr. Franz, and the records from Dr. Kennerdell, Dr. Gruen, Dr. Moossy and Dr. Zaitoon, all of whom were treating physicians. Id. at 103-04. He also reviewed the neuropsychological records of Dr. Ratcliff as well as the neuropsychological examination/testing records of Dr. Lovell. Id. at 104. In addition, he reviewed employment records, school records and the depositions of Greg and Donna Conn. Id. at 104.

Dr. Cosgrove opined that Donna suffered levels and episodes of pain that were consistent with the obvious severity of her traumatic injuries. Id. at 105, 155, 173. Initially, she likely had the degree of pain and discomfort that would be associated with her multiple injuries and was appropriately was treated with Fentanyl and Morephine, even though she now has no memory of the pain and discomfort she experienced. Id. at 105-107, 170-73. The records from her inpatient care do not reflect overt signs of pain behavior or consistent elevated pain responses. Id. at 107. They do show there were phases and periodic episodes when she had pain. Id. at 173. But it was managed appropriately and thus her pain and discomfort generally were minimized to optimal therapeutic levels. Id. at 107, 170-72.

Her pain and discomfort also were very effectively managed during her outpatient care. Id. at 107-11, 117-18, 123. As could be expected, during her initial outpatient treatment she was required to use analgesics and anti-inflammatory pain medication fairly regularly, but as her recovery progressed the use of such medications became more sporadic and episodic. Id. at 109. Within twelve months she progressed from the use of walkers and appropriate assistance devices through a nine to twelve month period of gait deviations to the point where she was able to bear weight and have a normal gait pattern without complaints of pain. Id. at 110-111. By 2007 she had improved to the point where complaints of pain from extended physical activities were intermittent only and could be effectively managed with simple analgesics such as Tylenol. Id. at 123, 155, 161.

Donna's cognitive impairments likewise have been managed effectively with medication. Depression and despondency would be expected given the degree of traumatic brain injury. Id. at

107-108. The use of anti-depressants have been well-managed and effective, thereby minimizing the mental and emotional discomfort and disruption she experienced. Id. at 107-8, 161-64.

It is Dr. Cosgrove's opinion that Donna has experienced an excellent recovery, from both a physical and cognitive perspective. Id. at 112, 137, 121-23. Her recovery from a scapular fracture, abdominal surgery and the pelvic fracture all were quite good and very smooth. Id. at 112. There were no major complications and she has not suffered any additional falls or injuries. Id. at 112. At this juncture Dr. Cosgrove would not place any restrictions on her physical activity due to her pelvic fracture. Id. at 113-14. He would not impose the walking, sitting and lifting/carrying restrictions that Dr. Gruen acknowledged in 2007, even though symptoms of intermittent and episodic pain might well be expected, particularly with extended physical activity. Id. at 121-23, 151-55, 161. Specifically, he would not place any endurance restrictions on her physical or muscular activities and does not believe she has any residual limitations on her level of strength. Id. at 161.

Dr. Cosgrove also is of the opinion that Donna is doing extremely well from a cognitive perspective. Id. at 133. She did have fairly profound deficits across the board from her injuries. Id. at 133. But over the course of years she has recovered to the point where she is at or near the baseline level of functioning she had prior to the accident. Id. at 133-34, 137, 146, 174-75.

Donna's pre-accident baseline level of functioning was ascertained by Dr. Cosgrove from a number of sources. Generally, he begins by evaluating the person. Id. at 130. Donna's school records indicate she struggled in school, had interventions at the request of the school district, had to repeat certain classes and had achievement scores that indicated areas of deficiency. Id. at 125. These scores are not valid predictors of how a person will cognitively function later in life. They are, however, very good predictors of the occupational tracks which would be appropriate for the student. Id. at 125. Her employment records indicate she was an effective worker with good records and a valued employee who did a good job. Id. at 146-47. Her school performance as well as her performance after recovery demonstrate that she is a very persistent person who tries against all odds, notwithstanding the fairly accurate classification that she was a "slow learner." Id. at 165-66.

Donna's cognitive recovery has returned to this baseline from a performance, activity and functional level. Id. at 134. Functionally, her communication skills will not be impacted by her deficit in name recognition because cuing or hinting occurs practically in the "give-and-take" course of the normal conversations. Id. at 135. The ability to drive indicates her recovery in the ability to multitask has been substantial, she has recovered from her visual and shoulder impairments, and she has re-mastered a significant level of coordination. Id. at 138-39. She is able to drive in a safe and reasonable fashion, which exhibits the ability to exercise good judgment. Id. at 141. She also is now able to care for three children and has not acted impulsively or inappropriately. Id. at 142.

Dr. Cosgrove's review led him to conclude that Donna is "at a low risk" for premature dementia or a seizure disorder. Id. at 143, 167-68. He disagrees with both Dr. Kant and Dr. Shymansky concerning the degree of risk involved. Id. at 167-68. Her risk is so low that it is not a significant factor. Id. at 167. The bases for this determination are two fold. First, she is not in the category of individuals who generally are risk-takers and prone to engaging in behavior that will expose them to multiple head traumas. Id. at 143-145, 167-68. Second, she does not engage in any behavior where multiple head injuries may occur. Id. at 144-145. As a consequence, she is at no greater risk of having post-traumatic dementia or a seizure disorder than an individual who has had one concussion. Id. at 145.

Dr. Cosgrove's review indicated Donna is capable of going back to work. Id. at 146. From a functional and cognitive standpoint, she has improved to her prior baseline level of functioning. Id. at 146. She was an effective worker and valued employee and her neuropsychological data indicates she has the cognitive force to engage in competitive employment. Id. at 146-47. She may not be able to do her old job. Id. at 147. But with repetition and cuing she is able to improve and she has been able to endure battery after battery of neuropsychological tests. Id. at 147. She is very persistent. Id. at 165. She may need to be cued and coached during a period of on-the-job training. Id. at 166. "But, if you get the appropriate employer, she is competitively employable." Id. at 166.

This is not to say that she has no cognitive deficits; she does. Id. at 147. She has

anatomic areas of permanent injury and permanent cognitive deficits. Id. at 174-175. But these deficits do not preclude her from going into the workforce and there will be jobs that she competitively will be able to obtain. Id. at 175. In these positions her cognitive deficiencies will not make a difference. Id. at 175. For example, she will may not do well in a position that has a great number of variables. Id. at 175-76. Similarly, she may need coaching or other job specific accommodations to deal with pressures in the work place, such as a line of customers. Id. at 176-77. But she is able to reenter the workforce. Id.

The government requested Jay Jarrell, a forensic economist and vocational occupation expert by training and experience, to provide opinions on the issues of Donna's employability and the economic losses sustained as a result of the accident. Trial Testimony of Jay Jarrell (Doc. No. 59) at 179-194. Mr. Jarrell obtained a bachelors degree with a major in psychology from Duquesne University in 1955. Id. at 180. He obtained a masters degree in industrial relations from the University of Pittsburgh in 1959. Id. at 181. After graduation he worked as an employment counselor for a private employment agency from 1955 through 1992. Id. at 182. He became a partner at Straus Personnel Service and eventually became the principal owner of the firm. Id. at 181. Up until 1992, Mr. Jarrell assisted employers with finding qualified employees and helping people find new jobs. Between 1992 and 1995, he worked exclusively on meeting the needs of one customer, Drake Beam Morin, which was the world's largest out-placement firm. Id. at 183. In 1995 he sold the firm to friends. Id. at 181.

Mr. Jarrell holds two certifications in the area of personnel work. He is a diplomat with the National Association of Professionals in Human Resources. Id. at 183. He is also certified by the National Association of Personnel Consultants. Id. at 184. In addition, he has past experience as a forensic economist, having testified several hundred times as a labor economist. Id. at 185-86. He is a member of the national association of forensic economists. Id. at 186-87. Based on this background, Mr. Jarrell was permitted to offer opinions in the area of vocational occupation and as a forensic economist. Id. at 194.

Based on a review of the medical records and his past experience in vocational rehabilitation, Mr. Jarrell concluded that Donna could perform several minimum wage jobs that

exist in the area. Id. at 223-25. The positions would be limited to sedentary or light work. Id. at 221. They include convenience store clerk, stock person, counter cashier, motel attendant and daycare worker. Id. at 222-225. Mr. Jarrell assumed that Donna would work the average amount of time reflected in the work life expectancy tables, which would be 19.4 years. Id. at 203-05, 227-29.

Based on the above assumptions Mr. Jarrell adjusted Dr. Marlin's loss calculations to reflect his estimates of the total losses in wages and benefits. He assumed that Donna remained unemployable through the date Dr. Marlin calculated past wage and benefit losses, and only made adjustments to the portions of his report dealing with future loss wages and benefits. Id. at 207. Mr. Jarrell reduced Dr. Marlin's future lost wages and benefits by approximately 78 percent to reflect the amount of losses that would exist if Donna were to work full time at minimum wage for 19.4 years. Id. at 199-200. In other words, working at a minimum wage job that provided medical benefits would offset the losses calculated by Dr. Marlin to approximately 22 percent of the amount stated in his report. Id. at 200. Under this approach, the loss would be reduced to \$292,552.00 in lost wages and \$65,298.00 in lost benefits, for a total of \$319,851.00. When added to Dr. Marlin's computations for past lost wages and benefits (\$124,434.00), the total loss becomes \$470,027.00. Id. at 215. This calculation assumed that medical benefits at least equivalent to those received by Donna at Williamhouse would be provided. Id. at 209.

Mr. Jarrell was asked to provide calculations pursuant to the assumption that Donna could work part-time at approximately twenty hours per week at a minimum wage job. Id. at 209-10. With the assumption of half-time employment in the future, the total net loss for past and future wages and benefits would be \$498,782.00. Id. at 211. It was again assumed that the employer would provide medical benefits, although the chances of the assumption turning out to be true remains unlikely. Id. at 217-219. An employer would have to make social security contributions for all earnings. Id. at 217. There is also a trend for larger employers to provide medical benefits with full time employment at minimum wage. Id. at 218-19. But it is not common for such employers to provide part-time employees with health insurance. Id. at 219. Assuming such benefits were not provided, the total loss would increase to \$546,782.00 when

calculated at a loss of \$2,400.00 per year and with no increase for productivity. Id. at 333, 336-37. All of the above calculations were based upon the work-life expectancy tables, which reflect the average number of years an individual within the applicable demographics would be earning money. Id. at 229-30.

At the government's request Donna was examined and underwent neuropsychological testing administered by Mark Robert Lovell, Phd. Trial Testimony of Dr. Lovell (Doc. No. 60) at 8, 51. Dr. Lovell obtained his doctoral degree in neuropsychology from the Chicago Medical School in 1984. After completing a clinical internship and specialty post-doctoral training in neuropsychology at the University of Nebraska, he became the Director of Neuropsychology within the Allegheny General Hospital system for eleven years. Id. at 11-12. He then became director of the neuropsychology division within the Henry Ford Health Care System in Detroit, Michigan. Id. at 12. He was recruited to the new Center for Sports Medicine when it opened on the South Side of Pittsburgh in 2000. Id. at 12-13. For the past eight years he has been the Director of the Sports Concussion Program and also has held a faculty appointment with the Department of Neurological Surgery. Id. at 11. His clients include athletes from the national football league, the national hockey league, major league soccer, major league baseball, the United States Ski Team, aspects of the United States Olympics team as well as race car drivers from formula No. 1 racing and NASCAR. Id. at 13-14.

Dr. Lovell is a licensed psychologist. He is board certified in neuropsychology. Id. at 19. Approximately 70 percent of Dr. Lovell's practice consists of treating athletes and doing research with them. Id. at 21. As a neuropsychologist, Dr. Lovell administers tests that are designed to measure brain function in specific areas. The testing consists of a variety of forms that are administered through an array of formats such as by computer, paper and pencil, interview, and examination, and so forth. Id. at 21-22. The testing is designed to measure different functions of the brain. Id. at 23.

Dr. Lovell has developed an approach called baseline testing where athletes are given specific tests involving memory, thinking, speed and similar cognitive skills before they are injured. Id. at 15. The developed baseline then serves as a point of comparison in the event that

the athlete is injured in the context of playing sports so that it can be determined whether there has been any change in their mental ability. Id. at 15. In the event an athlete is injured, various protocols are utilized and then active efforts towards rehabilitation are employed to grapple with long-term difficulties. Id. at 16. His patients usually have experienced concussions without internal bleeding or stroke. Id. at 95. Dr. Lovell also works actively with the rehabilitation department at UPMC, which involves treating individuals that have more long-term deficits and difficulties. Id. at 16.

Brain injury patients are evaluated on a case-by-case basis. Id. at 17. An evaluation highlights what the individual does well and treatment is geared toward building on those areas of function. Id. at 17. Efforts are focused on assisting patients in developing new skills and different ways of performing functions that have become difficult. In other words, to retrain the brain to do things differently. Id. at 117.

An effort also is undertaken to establish a pre-accident baseline level of functioning. Id. at 23. Dr. Lovell encourages athletes to undergo a specific test that he has developed, called the Impact Test, in order to provide an established baseline. Id. at 20. An IQ test is not a component of this testing. Id. at 21. If previous information that can be used to establish a baseline is not available, it is appropriate to gather information in order to formulate "an educated guess" about the individual's pre-accident level of functioning. Id. at 23. There are also a variety of statistical formulas and other means that can be used. Id. at 23. Included among such information is the Weshler Intelligence Test For Children because it is a valid predictor about how a person would be expected to perform on similar intelligence tests as they enter adulthood. Id. at 24-25.

Dr. Lovell formulated an estimate of Donna's baseline level of functioning from her seventh grade IQ testing. Id. at 27. The verbal IQ score provided insight into her intelligence in terms of speaking and interacting while using language; the performance scores provide insight into how she was able to size up spatial relations, put puzzles together, engage in mechanical aptitude and so forth; the full scale IQ is a combination of the verbal and performance scores. Id. at 27. The full scale IQ score is not the most important piece of information, but instead reflects a general global measurement. Neuropsychologists are more interested in how an individual

performed in the various sub-tests. Id. at 28.

Donna had relative deficiencies in dealing with spatial relations. Id. at 29. This translates into difficulties in the ability to look at something and size it up, analyze it and engage in intellectual tasks involving designs, puzzles and similar visually-based cognitive functions. Id. at 29. Deficiencies in this area would indicate that an individual would not do well in a vocational field that involved mechanical aptitude or engineering. Id. at 30. She also had difficulty in object assembly, which involves putting puzzle pieces together under time pressure. Id. at 31. This was a significant area of deficit and would indicate she would not do well in occupations such as drafting. Donna's full scale IQ score and middle school records indicated she had academic performance issues that resulted in a referral for additional help. Her high school transcripts also reflected similar academic issues. Id. at 37. This combination provides insight into her academic and overall level of functioning at that time. Id. at 38. Thus, Dr. Lovell placed Donna's baseline as one falling in the lower end of the average range, with areas of better and worse performance. Id. at 39.

Dr. Lovell administered neuropsychological tests that were designed to measure the same content areas previously measured by Dr. Ratcliff. Id. at 50. The testing consisted of parts of what is known as a wide range assessment of memory and learning. Id. at 55. It included the Weschler Memory Scales Test, which measures different parts of memory. Id. at 56. He employed the specific test that contains a story memory component, which involves cuing the patient about the topic of the story twenty or thirty minutes later and measuring how well the subject remembers the detail presented. Id. at 57. This test is similar to how individuals learn and remember things when they are talking with others and are thereafter trying to remember specifics about the conversation. Id. at 57. Donna was able to achieve a score that was average under this approach. Id. at 57. A "list learning test" was also employed, which consists on presenting a large number of words at one time and asking the subject to recall as many words as possible. Id. at 59. Donna had more difficulty with this test, particularly where information was presented out of context, such as the presentation of a random group of words. Id. at 59. Presentation in that manner was more overwhelming and she was unable to learn or remember as

well. Id. at 59. But when words were given in context, she did not have as much difficulty and performed better. Id. at 59. Dr. Lovell was unable to determine whether Donna had a deficiency in this area prior to the accident. Id. at 60.

Testing also revealed deficiencies in the area of visual-spatial relations. A Hooper Visual Organization Test was conducted, which involves the presentation of objects that are taken apart or blown up – the subject has to look at the images mentally and reorganize the pieces so that the angles fit together and form an object. Id. at 61. Donna had difficulties in this area, but they correlate to the same deficiencies revealed by the object assembly test that she had taken in the past. Id. at 61.

Donna's speech patterns also were tested for fluency, which involves an evaluation of comprehension, understanding what has been communicated and the ability to follow directions. Donna had no difficulty in this area. Id. at 62. She was also evaluated for conversational speech, which tests whether the subject responds in a timely and appropriate manner. "There was nothing really noticeable" about her responses. Id. at 63. Similarly, she was given a more difficult task of recalling words that begin with a specific letter with restrictions such as not using names and places. Id. at 63. Her performance was at an expected level, given her educational background and history. Id. at 64. She did well on tests involving "executive functioning," which reflects the ability to shift back and forth between a couple of pieces of information under time pressure. Id. at 65. She was able to scan material, integrate it and mentally bounce back and forth between numbers and letters under time pressure. Id. at 65.

Testing was conducted for signs of malingering. There was no sign of such conduct and it was clear she had put forth a good effort. Id. at 66-67. There also was no sign of depression. Id. at 67.

Dr. Lovell also reviewed the testing conducted by Dr. Ratcliff. Dr. Lovell explained object recognition as the subject looking at a clock, knowing that it tells time, but being unable to recognize it as a clock. Id. at 39. The deficiency arises from a brain injury and it ranges in severity or degree. Id. at 40. He also explained the Boston Naming Test as the subject considering a series of black and white drawings that move from everyday objects to more

difficult ones that most people would not recognize. Id. at 41-42. Dr. Lovell opined that an average score would be 55 for someone right in the middle of the average range of IQ testing, but with a full IQ score of 85 one would expect a score between 40 to 49. Id. at 44-45. Donna's score of 40 placed her "mildly below" the expected range and was properly categorized by Dr. Ratcliff as being a subtle deficiency. Id. at 45. Similarly, Donna's block design test score of 7 was the same as her score on that subtest in the seventh grade. Id. at 47. Dr. Ratcliff's testing of immediate memory, delayed memory and total memory also produced scores that correlate to IQ and were substantially similar to her seventh grade test results. Id. at 47-49. Greater deficiency is presumed or shown when her post-accident scores are compared to those that would be expected from an individual in the middle range of average intelligence. Id. at 49.

Based on the above undertakings, Dr. Lovell concluded that Donna suffers from deficiencies caused by the accident. Id. at 69. But overall, she is "mildly below her baseline" and Dr. Ratcliff appropriately characterized her deficiencies as "subtle." Id. at 69. In other words, she has "subtle residual brain injury." Id. at 69. Most people would not recognize that she had problems or deficiencies if they were to meet her socially or engage her in conversation. Id. at 70. It is only upon further "digging" that the problems surface. Id. at 70.

Dr. Lovell's review of the neuropsychological tests results available and the surveillance video led to him to conclude that Donna can return to the workforce. Id. at 71. Her ability to drive and take care of three children successfully indicate that her subtle difficulties and deficits are not impacting or affecting her level of functioning in these general areas. Id. at 71. The testing indicates there was "no real difficulties" in areas such as judgment in making decisions. Difficulty with object recognition would not ordinarily impact an individual at most workplace settings. Id. at 72-73. And she can do simple math such as multiply and divide. Id. at 73.

Dr. Lovell placed Donna's risk of premature dementia or seizure disorder as slightly elevated but still small. Id. at 75. The only group of individuals with an established high elevated risk are those with repetitive head injuries, such as boxers and possibly professional football players. Id. at 74. The risk is more than that attendant to an individual who only has suffered a concussion. Id. at 75. Nevertheless, it remains small and other risk factors such as

family history and genetics also play a role. Id. at 75. In addition, seizure disorder usually surfaces while the brain is still in a state of recovery. Id. at 75-76.

Although Dr. Lovell placed weight on Donna's full scale IQ score from the seventh grade, he did not do full scale IQ testing in his examination. Id. at 77. He likewise did not consider the testing from the fifth grade, which reflected a full scale IQ score of 92, reasoning without further explanation that "the second score was the most likely of what would be the most accurate." Id. at 80. He also does not rely on IQ testing as part of the impact study administered to athletes to establish a baseline prior to any brain injury. Id. at 83. Instead, the study takes into account measurements in a range of content areas, including both verbal and memory measures, which are different. Id. at 84.

Moreover, Dr. Lovell's testing of Donna revealed that she is in the first percentile for spelling, which indicates that 99 percent of the population taking the particular test scores higher. Id. at 91. She scored in the second percentile in math, meaning that 98 percent of the population would achieve a higher score. Id. at 91. In addition, Dr. Lovell's testing verified a degree of current lack of attentional focus, which could be related to her injury. Id. at 92-93. Her inability to perform well when information was presented without context likewise could be at least partially related to her injury. Id. at 93.

Dr. Lovell also did not obtain a written job description or ask Donna what her job entailed, even though it could be a piece of information bearing on her cognitive abilities and thus her baseline level of functioning prior to the accident. Id. at 93-94. Instead, he focused on her role as a caregiver for her three children. Id. at 93.

Dr. Lovell attributed Donna's difficulties in the spelling and mathematical portions of the test at least in part to pre-existing deficits that surfaced in school. Id. at 97. He did so because she could do simple division, multiplication, addition and activities of that nature. Problems arose when she was asked to work with equations or fractions or do algebra. Id. at 97. Similarly, she tended to confuse a "c" with "s" and make similar mistakes common to individuals who are just not good spellers. Id. at 98. Thus, from his perspective the deficiencies in spelling and arithmetic were long-standing and predated the accident. Id. at 99.

Based on the above, the government advocates that prespective properly should be placed on the injuries and recovery therefrom. From its perspective the recovery is well documented from both the physicians as well as Donna's family members. Dr. Franz, Dr. Gruen, Dr. Kennerdale and Dr. Zaitoon were able to treat her injuries and bring her back pretty quickly. By June of 2007, Dr. Franz noted that from a physiatrist standpoint she essentially was back to normal and although she had some remaining deficits, they were comparatively minor from where she started. From a physical perspective, Dr. Gruen documented a fairly quick recovery as well. No surgery was required and she was able to be on her feet within a month of getting to Harmarville. Within a year she was up and walking without pain. Treatment consisted of rest with no limitations on physical activity. Her level of pain from the fractured pelvis essentially was treated with Tylenol and it is not anticipated that other types of pain medication will be required in the future. Dr. Zaitoon has been able to control the incontinence issue and Dr. Kennerdale was able to resolve her eye problem completely without surgery.

Moreover, no physician testified that Donna cannot return to work. Dr. Gruen indicated she could meet the demands of light duty work. Dr. Kant and Dr. Ratcliff also documented a significant and remarkable recovery. Neither said she cannot work.

Similarly, defendants' reviewing experts place her near her pre-accident baseline from a neurological perspective. Dr. Shymansky indicated that she is near her baseline, not withstanding some residual effects from the accident. Dr. Cosgrove essentially testified to the same thing, noting that while anatomically a portion of the brain injury is permanent, the plasticity of the brain has permitted her to adapt and find new ways of returning to her prior level of functioning. And Dr. Lovell indicated she has recovered to the point that she can return to work and her level of cognitive functioning is near her pre-accident baseline.

All of the above is confirmed in the government's surveillance videos. Physically, she is able to function like a normal individual, being able to drive, walk, lift her children and so forth.

The government also requests that perspective be given to Donna's pain and suffering. She does not remember the accident or essentially the first month after the accident, in part because she was in a coma and also because she was placed on significant pain medication. And

while she did have pain, the treating physicians were able to manage it very effectively. Similarly, she did not suffer constant pain throughout rehabilitation. Although there was pain upon engaging in the physical activities necessary for rehabilitation, the treating physicians and monitoring nurses did not document constant, significant or debilitating pain. She was not complaining of pain upon discharge from Harmarville and there was no pain medication prescribed at that point. From the government's perspective, pain only came up shortly after her September 13, 2007, deposition, when she made an appointment with Dr. Gruen and complained that she experienced pain after walking ten blocks, standing for two hours, and engaging in other episodes of moderate physical activity. No such complaints were made in the proceeding years, including to Dr. Franz, who conducted a comprehensive physical examination just a few months prior. And Donna's report to Dr. Gruen was not that she has pain when walking ten blocks or standing two hours, but that those are her endurance limits. Dr. Gruen's response was to take it easy and take Tylenol as needed.

The government argues for perspective on the extent the injury has caused deficiencies in cognitive functioning. Dr. Lovell indicated that the areas of deficiencies identified by Dr. Ratcliff for the most part existed prior to the accident. There are subtle enhancements and subtle affects on her personality and cognitive abilities. But when a baseline is drawn based on the testing performed in the seventh grade and her high school academic performance, the deficiencies are much small and are near or just below her pre-accident level of cognitive functioning. She was able to function very effectively prior to the accident with these deficiencies, and her recovery permits her to continue to do so even with the subtle residual effects from the accident. Dr. Lovell employed the same types of specialized testing that were used by Dr. Ratcliff in identifying her deficiencies and Dr. Lovell identified very similar deficiency within the subjects in the prior testing. And any differences in her personality properly are viewed within the level of cognitive functioning that she now retains. Dr. Lovell's interview revealed that she retains the ability to go about her life, engage with her family and perform the ordinary functional activities of living such as driving, caring for her children, shopping and so forth.

It is the governments position that Donna also retains the residual capacity to work. The only experts to address the issue of employability directly were Dr. Shymansky, Dr. Cosgrove, and Dr. Lovell. While each of these physicians did not agree on every area in dispute, they all concluded that Donna would be able to reenter the workforce if she chooses to do so. The only doctor providing any testimony to the contrary was Dr. Gruen. No treating physician has actually told her that she cannot go back to work. To the contrary, they suggested she be evaluated to determine whether she can return to work.

Dr. Kant and Dr. Ratcliff offered extensive testimony concerning the nature and extent of Donna's cognitive injury and residual level of functioning. Neither commented on her ability to go back to work. Furthermore, the surveillance video and the information pertaining to her current responsibilities indicate she has the ability to work. Having responsibility for three children and caring for them as reflected in the evidence shows the ability to plan, coordinate with others, keep appointments and carry out errands responsibly. These functions involve cognitive thinking, planning and execution. She demonstrated great initiative toward regaining the ability to drive, including persistence in obtaining the appropriate evaluations and clearances. She has not made similar efforts toward returning to the workforce. Her prior work experience at National Envelope reflects that she was able to learn, take cues and learn to do task after task and advance to the point where she could do multiple tasks very efficiently. Her responses on cross examination revealed that she continues to have the ability to process information and think at a fairly quick pace. They reflected a strong similarity to Dr. Lovell's indication that when information is placed in context she is able recall and process it.

Finally, Donna's ability to take her children to the doctor provides significant insight into her cognitive abilities. The family is willing to permit her to get into a car, drive to Greensburg, go to the doctor, be the primary historian about what is going on with the toddler, get information from the doctor and relay it back to the rest of the family. This and similar undertakings sufficiently undercut the contention that she cannot handle money and requires significant oversight in such activities. And while there is no doubt that both Barbara Jordan and Drenda Conn help out, Donna repeatedly has maintained that she is the primary care-giver to three

children with no equivocation. While members of her family are around and watch over her at times, the record also reveals that a lot of time they are not there and they are willing to trust her with transporting the children to important or everyday activities. Thus, to suggest she is unable to work does her a disservice.

Plaintiffs highlight the difficulty of placing monetary value on all of the matters raised by so many severe injuries. Donna initially suffered a fractured pelvis, a fractured scapula, a ruptured spleen, a ruptured diaphragm and collapsed lungs. Superimposed on these various injuries is the traumatic brain injury. In combination they create a daunting task in assuring the whole is equal to the sum of its parts.

Plaintiffs do not maintain that Donna is incapable of performing all forms of work activity. They do maintain that her ability to do a job on a competitive and regular basis has been substantially impaired. It is a fair inference that Donna could work for a few hours and even on a part-time basis at a minimum wage job. But the jobs that were identified – such as telephone marketer, motel clerk and convenience counter clerk or cashier – are jobs she will have difficulty obtaining due to the forces of competition. This reality speaks directly to the appropriate measure of damages, the loss of future earnings capacity as opposed to the actual loss of future earnings.

Dr. Marlin provided very conservative figures in estimating the loss of future earnings and benefits. He likewise did not simply assume that Donna could not perform household services, and made calculations that adjusted from a twenty-five percent to a seventy-five percent recovery in that capacity. Mr. Jarrell's testimony suggested that the ability to work part time at twenty hours per week at minimum wage for fifty-two weeks over the remainder of her work life expectancy would produce approximately \$150,000.00. Mr. Jarrell's testimony also fairly indicated that it was not probable that working a light duty, minimum wage job would result in receiving benefits. Subtracting the income generated from part-time, minimum wage work would still leave \$836,000.00 in Dr. Marlin's conservative estimate of total economic loss. The addition of medical expenses brings the total to \$996,000.00.

The testimony of Robert McElfresh provides direct insight into Donna's earning capacity

prior to the accident. He truly was a disinterested witness. A no-nonsense kind of guy that most of us would fear as a supervisor, but nevertheless a guy who knew what he was doing and knew about the job Donna was able to perform. Donna had two jobs at National Envelope, the first one lasting for a few years. She was promoted into a fairly complex and demanding position. McElfresh's testimony established that she was not only a good worker, but from time to time she gave other people, including McElfresh, advice and suggestions on how to improve work efficiency and productivity. This line of testimony reflected cognitive abilities far beyond those of low average intelligence.

Plaintiffs also highlight several aspects of the record they believe bear on pain, suffering and inconvenience. With regard to pain, Dr. Moossy indicated that Donna had a Glasgow Scale of 15 when she got to the hospital. She was going through all of the feelings that a conscious person would have with all of the severe injuries she sustained. She did not lapse into a coma until the fifth day. Furthermore, Dr. Cosgrove indicated that during her inpatient care it was normal to operate under the assumption that she was experiencing the pain that normally would accompany her injuries and it was not the case that she was without pain, but rather the treating physicians were doing a very good job of controlling the pain.

Plaintiffs also note that the record reflects significant degrees of suffering throughout the road to recovery. For example, Donna did not understand why the trach was there and she found it quite irritating. She wanted it out and tried to pull it out. They had to restrain her from doing so while in a wheelchair. And she remembered having gloves placed on her hands so she could not remove the trach and do further damage. While such events may not be pain, they certainly are examples of suffering. Similarly, she went through many different forms of therapy. She had to be taught how to walk and talk for example. She had incontinence and had to endure the embarrassing process of bringing this condition under control. And she is required to take medication to keep it under control. These are just examples of the things Donna has had to endure over the years that it took to achieve what accurately has been described as a remarkable recovery.

The record also reflects significant changes to Donna's personality. She repeatedly was

described as an individual that was spunky, energetic, outspoken, headstrong and willing to speak her mind. In contrast, both her treating physicians and family said that she was like a child when she first came home from Harmarville. They had to teach her simple things such as how to eat. She still gets lost while driving.

In addition, plaintiffs note the record reflects significant evidence about Donna's likelihood of experiencing future debilitation and suffering. She has reached maximum medical improvement and is not going to get any better. Dr. Gruen indicated she is at risk for chronic pain, arthritis and being disabled as a result of her high impact physical injuries. She will have periods where she is doing fairly well and then she will have periods where she will experience ongoing episodes of pain and discomfort. She has accepted this as her new normal.

The criticism directed at Donna because she told her doctors that she was an average individual and an average student is unfounded. Testing in the fifth grade clearly reflected scores that were average and the testing two years later still placed her in the average range. She never had to repeat a grade. She did have to repeat some classes, but to suggest that this removed her from the realm of average is nitpicking. Furthermore, the results from Dr. Lovell's testing in the areas of spelling and mathematics reflect much more than any established pre-accident deficiencies. Dr. Lovell suggested that various instances indicated Donna merely had forgotten the rules of spelling. Her transcripts reflect that she received A's in spelling and post-accident scores indicate that 99 percent of our population have a better ability to spell. And he indicated she can do addition, subtraction and division. Ninety-eight percent of the population have a better mathematical ability based on her post-accident testing. But in high school she took advanced math and received a grade of 82 percent. These differences suggest far more than any deficiencies that can be gleaned from her school records.

Plaintiffs also requests careful consideration of Greg Conn's claim for loss of consortium. Donna is not the same woman Greg married. Her personality has been affected detrimentally. He has to exercise more control and oversight. He has to cope with episodes such as Donna getting lost when she drives outside a familiar area. To be sure, Donna and Greg have enjoyed a good relationship. The surveillance tapes reflect insight into the intimacy of their relationship

when they were sharing time outside the farmhouse. But that does not negate the fact that Greg now has to oversee and take care of Donna in a manner far beyond what ordinarily would have been expected.

Analysis

As an initial matter, it is clear that Dr. Ziegler engaged in negligent conduct when she proceeded through the red light at the intersection of McClure Road and State Route 119 at a high rate speed. Her negligent conduct breached a duty of care to all other motors at the intersection. Donna approached the intersection with the right of way and proceeded into it. Dr. Ziegler's vehicle struck the vehicle driven by Donna, which caused the traumatic physical injuries outlined above. The traumatic physical injuries caused the traumatic brain injuries experienced by Donna on the fourth day after the accident. Consequently, liability for all injuries and damages caused by the accident is established in the United States and there is no comparative negligent on Donna's behalf.

The government's argument that the measure of Donna's pre-accident cognitive abilities and corresponding level of mental functioning should be determined primarily from her performance on and the results from her seventh grade testing is unpersuasive. Those test results are but one small aspect of her twenty nine years of learning and life experiences prior to the accident and the corresponding cognitive abilities and level of functioning that were achieved therefrom. As both Dr. Ratcliff and Dr. Cosgrove explained, general IQ testing is designed basically for people interested in education and the results are used to predict how someone is going to function at school and what areas of vocational pursuit are best suited for the student. Trial Testimony of Dr. Ratcliff (Doc. No. 61) at 97; Trial Testimony of Dr. Cosgrove (Doc. 59) at 125. Intelligence test results are one piece of information that can shed light on an individual's pre-accident level of cognitive abilities and functioning and they are used in detecting the effects of a brain injury. But much more must be taken into account before making such an assessment for the purposes of measuring the residual effects of a traumatic brain injury in determining

damages in a negligence case.²²

To be sure, Donna did score primarily in the “low average range” in nine of the twelve sub-test areas and below average in the remaining three, which placed her in the slow learner range based on that particular testing. She also had difficulties academically in the seventh grade and in the tenth grade. She had to repeat five classes during her junior and senior years of high school. And all of this information properly is to be taken into account in assessing what the government has characterized as “her pre-morbid baseline.” But there is much more information that must be considered.

First, Donna’s academic record as a whole reflects that she was an average student. She had much higher scores in the performance scale portion and slightly lower scores in the verbal scale portion of the very same testing just two years earlier in the fifth grade, which supports the view that her cognitive abilities should not be understood as being concretely cast on one given day in the seventh grade. Furthermore, she did not have to repeat any grades during her formal schooling and she was able to complete the curriculum necessary to graduate from high school with what properly can be characterized as average grades. Thus, she cannot be categorized as a

²²Dr. Ratcliff, Dr. Shymansky and Dr. Lovell all essentially indicated that a much broader spectrum of information is used in neuropsychology to make an estimate of an individual’s pre-accident level of cognitive ability and function, which assessment is then used as part of forging an effective plan to identify and treat the specific deficits brought about by the brain injury in question. Dr. Ratcliff explained that general IQ scores are not good at identifying the specific deficits resulting from a brain injury; instead, the area of the brain that has been injured, the available pre-accident history of the individual and areas of sub-testing drawn from those tests are used to determine where to focus in formulating an appropriate treatment plan. Trial Testimony of Dr. Ratcliff (Doc. No. 61) at 35-37. Dr. Shymansky agreed that measuring overall intelligence is not an efficient way of identifying the effects of a brain injury, and such measurements properly are viewed only as one means of acquiring relevant information. Trial Testimony of Dr. Shymansky (Doc. No. 59) at 92. Dr. Lovell likewise uses only sub-tests that focus on memory, thinking, speed and similar cognitive skills in his Impact Test and draws on other pre-accident information that can be gathered about an individual when no Impact Test results are available. Trial Testimony of Dr. Lovell (Doc. No. 60) at 15.

Tort law requires us to do the same in assessing damages. We are to measure the cause and effect of the tortfeasor’s negligence on the victim and make an individualized award designed to compensate for the full extent of the injuries and harm inflicted.

dull and slow learner on a broad-based or comprehensive level based on her performance in school.

Furthermore, Donna's work experience and performance as relayed by Mr. McElfresh, a truly disinterested witness in the case, indicate she was bright, learned complex processes quickly, was adaptive and resourceful in a fast-paced and changing environment, had good organizational and planning skills, could work well with customers in meeting their needs and could absorb and process information very efficiently. She was able to learn a complex job and fairly quickly identified ways of simplifying it, improving work flow, developing new ways of storing or tracking needed information and so forth. She was able to succeed to the level where she was trusted with the responsibility to handle the biggest customers accounts along with a significant number of other customers. She was very knowledgeable. She was very productive with a high quality and quantity of work output. She was very dependable. She displayed good initiative and was a self-starter who could determine what needed to be done and then would do it without hesitation or prompting. She displayed excellent judgment and examined things thoroughly before making decisions. She had excellent organizational skills in managing work-related matters. She was very headstrong and willing to stand her ground when she believed she was in the right. She was willing to go the extra mile when necessary. She would display frustration under pressure and needed to work on controlling that emotion. She also needed to improve in organizing personal space, communicating with co-workers and being occasionally tardy or absent from work.

The testimony from Donna's family members established very similar cognitive abilities and personality and character traits. She was assertive and headstrong when she made up her mind about something. She was an independent thinker and determinative when completing tasks. She had good organizational and planning skills. She had very good initiative and would tend to chores and tasks without prompting. She was able to manage matters within applicable time restraints. She was willing to stand her ground when she believed it appropriate.

From a physical stand point she had no meaningful impairments for a woman of her age. She had no limitations in endurance. She had no limitations in strength. She had no limitations

in agility. She had no limitations in performing physical activity regularly and on a sustained basis.

It is the above attributes and traits that we draw on in assessing the degree to which the injuries caused by the accident negatively have impacted Donna's cognitive and physical abilities and concomitant level of functioning after her several year journey of recovery to the point of maximum medical improvement.

Cognitively, Donna has not recovered to a point "at or near her baseline." Starting with the areas highlighted by the neuropsychological testing, she has subtle but meaningful deficits in naming objects and recognition of objects. She is moderately impaired in organizing and accessing the fund of knowledge and concepts she retains. She has an impaired ability in verbal learning and in any activities involving visual-spatial relations. She is impaired in the ability to read, spell and perform mathematics beyond simple and basic levels.

She did have existing deficits in some of the above areas prior to the accident. For example, in her seventh grade testing she was ranked in the sixteenth percentile in spelling, the nineteenth percentile in reading and the twenty-seventh percentile in arithmetic in the wide range achievement test portion of that testing, which shows a moderate level of deficit as compared to someone scoring in the sixtieth to fortieth percentile. But we are unconvinced that mere lapse in remembering the rules of spelling or her pre-accident innate ability to perform functions of higher math can primarily account for her reduction to the first percentile in spelling and the second percentile of mathematics. Her academic performance in these area refutes this notion clearly. The same is true for her functional abilities involving visual-spatial relations and processing, evaluating and retaining information without corresponding context. Clearly she had deficits and limitations in these area. But the areas of her brain affected by her injuries were those that are known to generate these processes. And it has not escaped us that modest and even minor decreases in cognitive abilities have a much more profound effect for those that are on the lower side of the bell curve of average ability than those who are in the middle or on other side of average and beyond. Thus, we are convinced that the accident and resulting traumatic brain injuries were substantial causes contributing to and producing her current and residual

deficits in the above categories of cognitive abilities and functioning.

It also is clear that Donna has and will continue to have deficits in attentiveness, the awareness of a need to do things, initiative, and motivation. She is inattentive by all accounts. Her level of inattentiveness is well beyond what would ordinarily exist apart from the accident. She had a bright and energetic spirit before the accident and was able to become engaged easily, concentrate without having to focus on the need to do so, and contribute to the social interaction and decision-making involving or going on around her. She is now apathetic a good deal of the time and contributes no or only modest input into ordinary discussions and decision-making in the social interaction involving or going on around her.

Prior to the accident Donna was very perceptive about her surrounding environment and recognized the need to tackle chores, tasks and responsibilities as those needs arose. For example, she would recognize when household chores needed to be done. She would also be able to calculate the amount of time that would be needed to complete various tasks within a given timetable and budget her time appropriately. Now, she is often unaware of the need to do things or that some state of affairs calls for action on her part. Her recognition of such needs greatly is improved on reminding and prompting. But she still continues to lack the ability to recognize independently that a state of affairs calls for action on her part on a fairly regular basis. She also lacks the ability calculate and plan the requisite time needed to complete tasks on a fairly regular basis, making her unable to engage in reliable and efficient planning and task completion on a constant and/or sustained basis.

Prior to the accident Donna had great initiative and motivation that served her well in approaching her responsibilities, both in the workplace and at home. She took on responsibility with enthusiasm and sought to do her best in the things she accomplished. This initiative and motivation enabled her to rise to an advanced position at work, where she ultimately became responsible for the five most important customer accounts. She managed these as well as a large block of the other accounts and coordinated numerous aspects of the production while simultaneously meeting data entry, shipping and other related demands within a schedule that required taxing precision. She was able to identify areas for improvement and was quick to stand

her ground when she believed the circumstances so warranted. In her personal life she was able to meet the demands of nurturing a marital relationship, being the primary care-giver to a toddler, regularly maintaining the household and finding time for recreational activities, all on a sustained and ongoing basis. Now, she experiences a lack of initiative and motivation to a degree well beyond the ordinary idleness and boredom that would occasionally be expected. She regularly needs help in staying focused on and actually completing the tasks and chores needed to maintain a family of five. She does not have the motivation and initiative needed to balance all of the demands of daily living on a day-in/day-out basis. She would experience the same deficits in motivation and initiation in the workplace.

Donna had no meaningful memory deficiencies before the accident. She did not become confused when she was (1) in an unfamiliar location or (2) required to interpret information on an abstract level. After the accident she is forgetful frequently and becomes easily confused in unfamiliar surroundings. She has difficulty interpreting information or data when it is presented in an abstract setting or in a manner that is out of context. These deficits are far more than those that would accompany the ordinary aging process and are directly caused by the accident and its aftermath.

Prior to the accident Donna physically had the stamina and endurance of an ordinary twenty-nine year old female with the above described personality traits, i.e., she had a great deal of stamina with little to no meaningful restrictions in endurance. She simultaneously could meet the demands of being a mother, a wife and working full time at a job that was both mentally demanding and involved a fair amount of physical activity throughout the day. She could climb and descend stairs without pain or concern. She had no restrictions in her ability to lift and carry objects. Now, she lacks the stamina to engage in physical activities on daily basis for a consistent and sustained period of time. She tires easily after any meaningful amount of physical activity. On her best days, she does have the stamina to walk ten blocks, stand for a few hours, sit and stand intermittently, and frequently lift 10 to 15 pounds and occasionally lift 20 or 30 pounds. But her physical endurance limits when measured on a consistent and sustained basis are meaningfully diminished. She experiences pain with any meaningful amount of walking or

sitting beyond these limitations, and at times even when such physical activities are undertaken only sporadically. She also will experience pain and fatigue on a sporadic basis even without engaging in the equivalent amount of physical activities. She cannot regularly climb or descend stairs.

The highlighted limitations and restrictions set forth above provide the backdrop which properly is taken into account in evaluating the residual mental deficits, physical limitations and corresponding decrease in abilities and functionality caused by the accident and the traumatic brain injury which it produced. Accordingly, we turn to each category of recoverable damages.

Donna is entitled to be compensated for all medical expenses reasonably incurred in diagnosis and treatment of the injuries caused by the accident. The parties stipulated that the amount of recoverable past medical expenses is \$159,261.33.

Donna is entitled to be compensated fairly and adequately for all physical pain, mental anguish, discomfort, inconvenience, and distress she has endured as a result of the accident and the injuries sustained as a result thereof through the date of trial. In setting this amount we take into account the pain and suffering that was evident when Donna presented at UPMC with a Glasgow Comma scale score of 15 and which the treating physicians believed her conditions would produce while she was undergoing inpatient care and treated with Fentanyl and morphine. See Trial Testimony of Dr. Cosgrove (Doc. No.) at . We also take into account the pain, discomfort, inconvenience, and distress she experienced over the years between the moment she came to ask “What happened to me” at Harmarville, through the episodes where she would sit and swing her head around, see Trial Testimony of Drenda Conn (Doc. No. 57) at 107, through the processes of regaining the ability to talk, to sit, to walk, to eat, to see with normal vision, and to maintain control of bodily functions with the use of medication, all of which were lengthy and drawn out by any standard. We also take into account the long and taxing road of regaining the ability to carry on meaningful conversations, to be able to perform simple math, to access at a fairly functional level her fund of knowledge and concepts, to gain the ability to engage in and interact meaningfully in the immediate social and physical environments, and so forth. We take into account the anguish from being unable to interact with her son for some period of time and

experiencing the realization of his attachment to another during the months of near complete incapacity. And we stress that these referenced matters are only a part of the physical pain, mental anguish, discomfort, inconvenience, and distress that Donna has endured as a result of the accident, and are set forth only to highlight some of the more poignant aspects of her five plus years road to recovery that properly is considered in setting fair and just compensation for this measure of damages. We award \$1,325,000.00 under this category.

Donna is entitled to be compensated fairly and adequately for all physical pain, mental anguish, discomfort, inconvenience, and distress she will endure in the future as a result of the accident. In setting this amount we take into account the increased risk she has for premature dementia and a seizure disorder. Under Pennsylvania law, a plaintiff in a personal injury action may introduce expert testimony to support a claim that she may suffer certain future harm as a result of past injury. Martin v. Johns-Manville Corporation et al., 494 A.2d 1088, 1093-94 (Pa. 1985). Where the issue in question is one of prognosis, the expert is not required to express his opinion with the definiteness required to establish medical causation. The testimony must, however, provide the finder of fact with a basis for a damage award that rises above speculation or conjecture. Id. at 1094 n. 5 (“Instead, the plaintiff must present competent evidence from which the jury can reasonably determine the degree to which future consequences of a present injury are probable and, accordingly, what the amount of any damages award should be.”) (citing Rice v. Hill, 172 A. 289, 291-92 (Pa. 1934); Baccare v. Mennella, 369 A.2d 806, 807 (Pa. Super. 1976); see also Reimer v. Delisio, 442 A.2d 731, 738-39 (Pa. Super. 1982) (reversing and remanding for new trial based on trial court’s exclusion of orthopedic surgeon’s cross-examination testimony that there was a ten percent possibility that the plaintiff would require surgery on her right knee in the future). And competent testimony showing a compensable increased risk also is relevant to the degree of mental anguish that a plaintiff will suffer from the injury inflicted. Walsh v. Brody et al., 286 A.2d 666, 668 (Pa. Super. 1971) (“As argued by plaintiff, the error in not allowing the jury to hear Dr. Clough’s explanation of the effects of the injury on the cataract surgery harmed plaintiff not only with respect to the damages she was entitled to as a result of the effects of the injury on future surgery, but also damaged plaintiff in

her proof as to the mental anxiety suffered by her because of the increase in the hazards of the cataract surgery.”) (citing Dempsey v. Hartley, 94 F. Supp. 918, 920 (E.D. Pa. 1951)).

Donna’s risk for premature dementia is more than minimal or inconsequential. By the testimony of every credible expert on the topic the potential degree of increase corresponds to the magnitude of her traumatic brain injury. The magnitude of her injury was quite severe by any measure. The risk therefore has a probability of materializing that rises above speculation or conjecture. The risk is considerably more than what would exist had she not suffered the injuries from the accident or merely suffered a concussion without a internal bleeding. It has the potential to increase even more if Donna suffers any additional head trauma. It is not, however, “great” or a risk that is highly likely to occur. In other words, the risk is real and of meaningful significance in arriving at an award under this category but it is not one that has a high or great probability of materializing. It likely will remain elevated and a meaningfully significant risk in the absence of additional head trauma. This increased risk also adds to the degree of mental anguish she reasonably will suffer as a result of the accident and its aftermath.

In contrast, the degree of risk for a seizure disorder is minimal at this juncture and there is a very low probability that such a disorder will arise. It will remain so in the absence of additional head trauma.

We also take into account the physical pain she will endure on the series of “bad days” she undoubtedly will experience throughout the remained of her life, which will arise from both pushing herself to or beyond her physical strength and/or endurance limitations and as a mere consequence of the high impact pelvis injury. We take into account the repetitive times she will suffer mental anguish, inconvenience, and distress from forgetting things, becoming confused from what should be a normal or familiar event or surroundings, getting lost in what is or has become an unfamiliar place, and so forth. And we stress that these referenced matters are only a part of the physical pain, mental anguish, discomfort, inconvenience, and distress that Donna will endure as a result of the accident, and are set forth only to highlight some of the more poignant aspects of what the future holds for her that properly are considered in setting fair and just compensation for this measure of damages. We award \$412,600.00 under this category.

Donna is entitled to be fairly and adequately compensated for the embarrassment and humiliation that she has endured and will endure in the future as a result of the injuries she sustained in the future. We separate the matters taken into account in this category from the matters taken into account in setting the awards for the previously considered measures. Here, we consider such matters as the embarrassment and humiliation she will no doubt experience in being unable to help her children with homework once they advance beyond grade or middle school, to handle complex or unsettling social situations that arise quickly outside familiar surrounds, to keep up with normal housework, chores and responsibilities without fairly regular cuing and prompting by others, and so forth. And we stress that these referenced matters are only a part of the embarrassment and humiliation that Donna will endure as a result of the accident, and are set forth only to highlight some of the more poignant aspects of what the future holds for her that properly are considered in setting fair and just compensation for this measure of damages. We award \$100,000.00 under this category.

Donna is entitled to be fairly and adequately compensated for the past, present, and future loss of the ability to enjoy any of the pleasures of life that she has endured and will endure in the future as a result of the injuries she sustained. We take into account the fairly complete deprivation of such matters during the early years of her road to recovery. We also take into account the future inability to engage in the types of activity that pose a risk of a second head trauma, such as horseback riding and any similar sports or outdoor activity. We take into account the combined effects from the apathy and inattentiveness that has effected and will continue to effect Donna's ability to experience and appreciate all enjoyable experiences in life to their fullest extent. And we stress that these referenced matters are only a part of the loss of the ability to enjoy any of the pleasures of life that Donna will endure as a result of the accident, and are set forth only to highlight some of the more poignant aspects of what the future holds for her that properly are considered in setting fair and just compensation for this measure of damages. We award \$300,000.00 under this category.

Donna is entitled to be compensated for the amount of past earnings she lost as a result of the accident. Dr. Marlin calculated the amount of lost economic earnings through the date of his

report at \$139,000.00. The record clearly supported each assumption underlying this calculation and we find the amount to represent adequately and fairly the loss sustained in this category.

Donna is entitled to be compensated for the reduction of future earning capacity that will be experienced from the injuries she sustained as a result of the accident. It is well settled that “[e]arning capacity has to do with the injured person's economic horizons” and compensation is directed at making whole the impairment of the individual’s ability to earn income in the future. Ruzzi v. Butler Petroleum Co., 588 A.2d 1, 7 (Pa. 1991); Sherman v. Manufacturers Light & Heat Co., 132 A.2d 255, 257 (Pa.1957) (“Damages for loss of earning capacity arise out of an impairment of that capacity, and not out of loss of earnings.”). In other words, “[i]t is not the status of the immediate present which determines capacity for remunerative employment. Where permanent injury is involved, the whole span of life must be considered. Has the economic horizon of the disabled person been shortened because of the injuries sustained as the result of the tortfeasor's negligence? That is the test.” Ruzzi, 588 A.2d at 7(quoting Bochar v. J.B. Martin Motors, Inc., 97 A.2d 813, 815 (Pa. 1953)). The determinations of the existence of an impairment to earning capacity and the effect it will have over the life of the victim are questions of fact. Sherman, 132 A.2d at 257-58.

We credit Dr. Marlin’s calculations reflecting the total amount she would have earned during her work-life expectancy if the injury had not occurred. We take into account the residual effects from the accident and Donna’s residual functional capacity as set forth above. At best Donna will be able to work a part time job one or two days a week on an intermittent and sporadic basis during the remainder of her work life expectancy. She will be limited to work with both minimal physical and mental demands. She will not be able to perform jobs that require mastery of a significant number of variables or demand more than modest levels of cognitive functioning, and thus will be limited to simple, routine work with little to no responsibility for handling spur of the moment decision-making or adjusting to new or unexpected pressures or changes. And her endurance limitations, mental apathy and inattentiveness, and diminished levels of motivation and initiative adversely will impact her future earning capacity, both in obtaining employment within these perimeters and in

maintaining any position over a sustained period. Given these circumstances and the remaining aspects of the record that reflect on the diminishment of her earning capacity, we award \$525,000.00 for this category.

Greg Conn is entitled to be fairly and adequately compensated for the past, present, and future loss of Donna's services and the past, present, and future loss of companionship that has resulted or will result from the injuries she sustained. This category measures losses arising out of the marital relationship. It includes the company, society, cooperation, affection, and aid of the spouse in the relationship and the loss of support, comfort, and assistance, the loss of association and companionship, and the loss of the ability to engage in sexual relations. Services in this context of the law "as now understood, in connection with claims by husbands for damages, etc., 'implies whatever of aid, assistance, comfort and society the wife would be expected to render to or bestow upon her husband under the circumstances and in the condition in which they may be placed, whatever those may be.'" Bedillion v. Frazee, 183 A.2d 341, 343 (Pa. 1962) (quoting Kelley v. Mayberry, 26 A. 595, 597 (Pa. 1893)).

As part of this category Greg also is entitled to be compensated fairly and adequately for the value of the loss of household services Donna would have contributed to the family but was unable to do so as a result of the accident. It has long been recognized that a husband has a common law right to the services and industry of his wife and that impairment to the wife's ability to render such services is a recoverable loss. See Standen v. Pennsylvania R. Co., 63 A. 467, 470 (Pa. 1906) ("At common law the husband, during the existence of the marital relations, was entitled to the services and earnings of his wife. It was held by this court that at common law the husband was entitled to the person and labor of his wife and the benefits of her industry and economy."). This right extended to both the wife's services in and out of the home. Id. at 471 And a husband may recover for the value of such services even though he has not incurred actual out-of-pocket expenses for such losses. Id. ("The value of her services of which he was deprived or the extent of the diminution of her capacity to assist him in his home and business affairs was his loss...."). What is necessary is competent evidence of the value of the loss. Id. Expert testimony is an appropriate means of providing such evidence. Cotterman v. Allstate Ins.

Co., 666 A.2d 695, 701 (Pa. Super. 1995).²³

Dr. Marlin calculated the value of the past loss of household services through the date of his report at \$52,000.00. The record clearly supported each assumption underlying this calculation and we find the amount to represent adequately and fairly the loss sustained in this category.

Greg likewise is entitled to be compensated fairly and adequately for the value of the future loss of household services Donna would have contributed to the family but will be unable to do so as a result of the accident. Dr. Marlin calculated the value of the future loss of household services through the remainder of her natural life expectancy at \$171,203.00. We part ways with him on one important assumption: that Donna will only be able to perform

²³The government's reliance on McDonald v. United States, 555 F. Supp. 935 (M.D. Pa. 1983), to establish the proposition that loss of the capacity to perform household services is not compensable unless the plaintiff has incurred out-of-pocket expenses for such services is misplaced. There, the trial judge acknowledged that Link v. Highway Express Lines, Inc., 282 A.2d 727 (1971), permits recovery for the value of such losses, but the court's award in other categories of damages had already provided just compensation for the diminishment of the plaintiff's capacity that would actually continue into the future. Thus, without proof of actual out-of-pocket expenses, an additional award for such services was not warranted under the particular circumstances.

Moreover, we agree with the Judge's observations in Alt v. Franceski, 2004 WL 2544453 (Pa. Com. Pl., Sept. 29, 2004), that for some time now the value of such services has been overlooked and undervalued and viewed as mere woman's work or chores that is somehow less important or not worthy of compensation in and of itself. Id. at * 11. Of course, Pennsylvania long ago recognized that a loss in the capacity to provide such services necessarily leads to an economic injury. See Kleine v. Pittsburgh Railway Co., 97 A. 395 (Pa. 1916) ("The performing of household duties by a woman at her home is certainly an element of damage in view of the fact that her inability to perform such work would, in the natural course, result in the necessity of employing another for that purpose."). And both the Alt and McDonald courts directly compensated the injured wife for the degree of injury to this capacity. But the Supreme Court of Pennsylvania's last pronouncement on the subject in Link continued to adhere to the common law (and perhaps outdated) view that harm to the wife's capacity to provide household services creates compensable injuries in the husband. We follow that view here and make an award for such losses to Greg. We also note that whether such damages are awarded directly as part of Donna's diminished capacity to work or as part of Greg's loss of consortium claim does not change the amount of recoverable damages we would award and thus the government cannot be prejudiced by our choice to employ either approach.

approximately 75 percent of what she could and would have been able to contribute. The record supports a smaller reduction in her abilities given the level of her functional recovery and her persistence in fulfilling the roles of primary care giver to the children and supporting wife. Her capacity is more accurately represented at 87.5 percent, and with the remaining assumptions being sufficiently supported, we award \$85,600.00 for the loss sustained in this category.

We also take into account the fairly complete deprivation of all measures comprising the protected interests in the marital relationship during the early months of Donna's road to recovery. We take into account the painstakingly slow progress of her recovery on both physical and cognitive levels after she returned home, charting a course that consumed years, not days or even months. We take into account the deprivations to this bundle of companionship rights that Donna's residual inattentiveness, apathy, lack of motivation and initiative, forgetfulness, and periodic confusion will generate. Donna has enjoyed a substantial recovery and the relationship has returned to a level close to what it once was; Donna and Greg have enjoyed the addition of two children in the very recent years. But clearly, Donna is not and will never again be the woman Greg married, and the differences as they impact on the relationship are (1) not positive and (2) more than insignificant. Given these circumstances and the remaining aspects of the record that reflect on the diminishment of her contributions to the relationship as compared to what they would have been, we award a total of \$400,000.00 (\$52,000.00 + \$85,600.00 + \$262,400.00) for this category.

Donna is entitled to be compensated for all loss of her property caused by the accident. The parties stipulated that the amount of recoverable property damages is \$9,847.28.

Date: April 23, 2009

s/ David Stewart Cercone
David Stewart Cercone
United States District Judge

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